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We Have Learned Something

ONE day last week we got all excited over something else that was "wrong" with the textile industry—and wrote an editorial about it for this week's issue. We think we shall let it rest in the "overmatter." There are 53 Saturdays—count 'em—next year, which ought to give ample opportunity for such expression.

Just now we are in the midst of the holiday season. We find ourself, in common with many of our friends, rather belatedly climbing on board the Christmas band wagon. For a while it seemed that a moratorium on Christmas this year was in keeping with the times. But as the day approached, the old infection spread—and most of us decided to declare a moratorium on trouble.

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We have no desire to adopt a Pollyanna role. Christmas or no Christmas, there is still a long, hard road to travel. Even the fact that the worst seems over affords no ground for unbridled optimism. There are still too many sore spots in the world to permit rose-colored predictions for 1932.

But, believe it or not, there has been enough good in 1931 to make any thinking man feel glad.

For one thing, there have been finer demonstrations of courage than this generation, at least, has known before. To our mind, the bravery in the World War, enacted against a background of martial music and national acclaim, has been eclipsed by the fight which individuals have staged this year, against a background of sordid need and national distrust.

We are thinking, for example, of a family in our home town. The husband's income was cut, by degrees, to 35% of the 1930 figure. The home they had built had to be rented, and a rather mean apartment secured. The wife, physically frail, got a job in a department store. The husband, in addition to holding down his own job, has been cooking the meals. And yet, through it all, there has not been a whimper. This couple has taken it all as part of the game.

There are of course thousands upon thousands of far worse cases. But the latter are publicized in the newspapers while the one we described is typical of so many other instances of brave performance, unseen and unsung.

We have watched men approach the brink of character degeneration—probably the worst by-product of depression—and then snap back, fighting against long odds to hold the ground they had gained through years of struggle.

In our own industry, there have been examples of courage which, if compiled, would constitute a modern epic. Companies, facing probable extinction, have thrown themselves into the fight and have managed to hold on. Men, recognizing an emergency, have subordinated individualistic beliefs and considerations to the good of the whole.

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Against these fine demonstrations, the examples of silly merchandising, of selfish overproduction, fade into insignificance. Because, after all, selfishness is probably a normal trait, while selflessness is one of those noble sparks lighted by emergency.

Cynics believe that such sparks soon die and that crises leave no permanent good. History teaches us otherwise.

Consequently, as we try to forget the grief of 1931, we find a Christmas thought in the fact that the world has learned something.

The Week in Textiles

as Reflected in This Issue

General

Keeping Faith with Consumer

A charge that the textile industry "has not kept faith with the consumer" is brought. A change in psychology is suggested if the industry is to clear itself of this charge and to get out from under the abuses of debased fabrics. The time for unbridled individualism has passed. The author points out why, where and how. *(page 28)*

Pointers on Patents

It is interesting to note that considerable leeway is permitted in filing applications for patents. In one case the use of a patentable device for a period of seven years before the application was made did not prevent the issuing of a valid patent. *(page 39)*

Money Uncertainties

Uncertainty regarding money is now the critical point in the recovery, says Dr. L. H. Haney writing in this week's TEXTILE WORLD Analyst. "The business situation," he says, "is characterized by great and unnecessary uncertainties concerning the settlement of debts and the purchasing power of money. This condition retards the development of a sound basis for recovery. The textile industries are now likely to do no better than business in general." *(page 55)*

Cotton

Color Change in Stocking

Several possible causes of the development of a color change in a rayon-cotton stocking are enumerated. It is pointed out that it is quite possible that a different cotton stock may be used in the foot than in the leg and that this would have a very noticeable effect upon the shade. *(page 53)*

Foundation's Marketing Study

Details as to the study of the marketing of cotton goods authorized by the Textile Foundation are available. The study will be conducted by the Harvard University Graduate School of Business Administration, under direction of Dr. Melvin T. Copeland, professor of marketing. *(page 44)*

Handling Burned Cotton

A fire insurance company expert has written briefly on methods of handling fires in baled raw cotton and on best ways to effect salvage. *(page 45)*

The Cotton Seesaw

Raw cotton has been seesawing around recent levels without much definite change. The market is quick to reflect improvement in other commodities or in the security markets and seems to draw its keynote from such sources rather than from the textile markets. Recently there has been a recovery from December lows. *(page 59)*

Yarns Unchanged

Cotton yarns remain unchanged. Several dealers report an effort on the part of spinners to use the bulge in cotton to put small price advances into effect, but that the effort was fruitless. Shipments of yarn on old contracts this month are said to be running well ahead of December, 1930. *(page 59)*

Cottons Work for Stability

Cotton goods sellers are still working hard for stability and for development of confidence among buyers. Gray goods curtailment during the holidays should balance the excess production in print cloth numbers during November, but the real test of the movement will come in January when there will be no holidays to use as a hitching post for shutdowns. *(page 63)*

Wool

Clothing-Fabric Integration

Integration of the clothing and fabric industries now being undertaken in one instance in Philadelphia is an interesting experiment which may lead to better merchandising in the wool goods field. The effort is not new, but is being done under encouraging auspices. *(page 31)*

Weave Combinations

Proper selection of weaves, when combining two or more constructions, is essential if attractive and useful fabrics are to be secured. Special emphasis is placed upon the relation of this type of work to the thread intersection theory. *(page 34)*

Wools Held Back

The year-end situation is holding back any movement of wool that might otherwise take place. Dealers, however, report the market as steady on fine wools and firm to strong on medium wools. The Farm Board's wool is being held slightly above the current market average. Wool substitutes are slow but firm. *(page 59)*

Yarn Trade Inactive

Worsted yarns remain extremely quiet and sellers, who several weeks ago

The Textile Outlook

MORE pressure for reducing the cost of doing business is sure to come to the front in the new year. Some textile houses are finding that the current plan of buying and selling in small lots is distorting the relationship of cost of doing business to value of goods moved. Selling cost as a percentage of value of goods moved is also larger than formerly considered normal. A tightening up on matters of this kind may help many houses to eke out profit where none otherwise would exist. Cotton goods factors are hopeful that broader acceptance of the curtailment movement will result in a more stable market for the new year. Possibility for profit rests with manufacturers as a group—for depression or not there still remains a market for goods and mills have the responsibility of seeing that their quotations include a proper profit margin. Wool goods are hopeful that held-back spring business will break over the dam soon after the turn of the year. Quality at a low price is wanted which is straining the ingenuity of manufacturers. Silk is hesitant being still tied to the fluctuations of yen and uncertainty on the Japanese end. Knit goods mills are hopeful of a fair spring season.

gave up any thought of effecting business before the turn of the year, seem to have had the right idea. Firmness in the raw material remains the most encouraging thing dealers can see. *(page 59)*

Fabric Outlook Improves

Wool goods mills are feeling the normal holiday lull, but sentiment regarding January prospects for spring fabrics is more optimistic and factors look for a pick-up after the holidays. *(page 63)*

Meeting Overproduction in Cottons

DEVELOPMENTS in the print cloth group, looking toward an effective basis of curtailment, have been necessarily slow in taking definite form. Those in close touch with this branch of the industry appreciate the complexity of the problems involved. Indications are, however, that further constructive suggestions for meeting the overproduction crisis are now in process of formation.

The consensus of opinion among mill men in the Greenville-Spartanburg area is that practically every print cloth mill will be forced to curtail production schedules after Jan. 1, irrespective of their general policies in the past or whether or not they have been classed as conformists or nonconformists. It is pointed out that an unusually large number of mills have closed for the entire Christmas week and that many will not resume operations until Jan. 4. A list covering many of these mills was given in these columns last week.

Knitting

Adjusting Full-Fashioned Machines

Gauging the sinkers, installing the catch bar, setting the knock-over motion, and making other adjustments to bring the full-fashioned machine into proper working order are described in detail. The proper procedure for making a knitting test is outlined. *(page 37)*

Change of Garment Weight

Complete calculations show how changing the type of yarn in a knitted fabric will effect the weight of the garment. A method of calculating the size of pulley to use on a flat machine is also presented. *(page 52)*

Multi-Step Ribber

Announcement is made of the development of a new multi-step ribber designed to produce jacquard mesh effects. A distinct effect similar to that produced on full-fashioned machines is secured. *(page 51)*

Men's Hosiery Trading Up

Manufacturers of men's hosiery note a significant trend toward the better grades of full-fashioned numbers, which retail at 50c. and $1.00; 75c. lines are losing popularity. *(page 64)*

Swimsuit Prices Decline

The continued downward slant in bathing-suit prices is making buyers hesitant, and market expects a few weeks of slow buying until levels stabilize. *(page 64)*

Rayon Underwear a Popular Gift

Holiday underwear demand leaned strongly to women's rayon garments and some healthy last-minute business was placed. Other lines were quiet. *(page 64)*

Silk

Loom Attachments

New attachments for the silk loom take the form of a new takeup, a yielding reed, electric feeler motions, automatic let-off, and a new yarn-beam bearing. All of these attachments have distinctive features. *(page 50)*

Raw Silk Prices Weaker

Soft market tone and indifferent demand brought a 5 to 10c. drop in the prices of 13/15s this week; 20/22s were steady. *(page 61)*

Spun and Thrown Yarns Quiet

Spinners and throwsters have felt the repercussions of the Japanese gold embargo and the resulting weakening of the raw silk market; both yarns are quiet. *(page 61)*

Spring Outlook for Fabrics

A quiet January with some pick-up at the end of the month, and a fairly good February with much interest in canton crepes, is outlook. *(page 63)*

Rayon

Velvet Brocade

The fabrication of a velvet brocade, one of the novelty pile fabrics now being offered, is described. The bare areas are obtained by adding to the printing paste an agent which will destroy the rayon pile fibers. *(page 32)*

Yarn Demand Shows Spurt

Rayon yarn orders suddenly increased early last week and the new interest was so strong as to indicate that December would surpass November. *(page 61)*

Processing

Oil in Exhaust Steam

The functions of oil separators and the effect of oil on boiler and engine operation are discussed. When a compounded oil is used for lubrication, an emulsion is developed by the moisture in the steam reacting with the fatty component. *(page 40)*

Fugitive Silk Colors

That care should be exercised in keeping lots of stockings dyed in different baths separate is clearly illustrated. Washing stockings which have been mixed in pairing often reveals the presence of fugitive dyestuffs in one or the other. *(page 52)*

Brown Stains in Anklets

Oxidation of unremoved oil is determined as the cause of the development of brown stains on rayon anklets. The scouring of dull-luster rayon must be complete or this defect is very likely to appear. *(page 53)*

The Business Outlook

PROSPECT of prompt stabilization and progressive strengthening of the domestic financial situation is the most promising spot in the business picture as 1931 passes unlamented into oblivion. Financial difficulties growing out of uncontrolled deflation emerged as the most formidable factor frustrating domestic readjustment during the year. So far as foreign influences have played a part in postponing recovery there is little progress to be hoped for, and probably only further disturbance to be anticipated. But indications of energetic action on establishment of the Reconstruction Corporation after the Congressional recess, intelligent private support of the bond market evidently under way, and early relief for railroads through rate and wage adjustments, justify expectations of improvement in the domestic picture early next year. Its extent depends upon how promptly and powerfully pressure is applied to reverse deflation and replace and expand credit in use, and how strongly deferred private industrial demand will draw it into employment. Sources of such demand on a large scale are difficult to see at the moment, but they have always been so at a similar stage of depression.—*The Business Week.*

Textile Industry Must Show Its Ability to Keep Faith with the Consumer

*By Frank Waldo**

◆ The author of the accompanying article writes as an insider—one who has had experience in textile selling.

He does not use kid gloves. He states frankly that the industry "has not kept faith with the consumer." The instance he uses to illustrate this point, namely, the tendency toward debasement of fabric construction, is not, we believe, advanced as a basic cause of the present conditions in textile manufacture. Rather, it is a symptom: an example of the effects of unbridled individualism. To eliminate the real cause, he recommends a change in psychology whereby over-production and ruthless price-cutting by individuals will not merely be deplored by an industry but will be recognized as detrimental to the public interest, and controlled just as are other such practices.

Naturally, in this and all other discussions of control of individualism in industry, it must be remembered that a change in the interpretation, if not the letter, of national prohibitive legislation is necessary. However, we have pointed out in these columns previously that any such change must be preceded by education of a larger number of the individuals engaged in industry. It is with this thought in mind, we believe, that Mr. Waldo appeals for a new psychology among textile manufacturers.

He gives credit to the constructive moves which have been undertaken in recent years. However, he points out quite rightly that the industry as a whole must participate.—*Editor.*

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TO define the times through which we have been passing since November, 1929 as an industrial crisis or as an agricultural crisis, is to beg the issue. In reality it is a crisis of capitalism.

Our whole economic system is being put to the acid test. Our leaders especially are on trial. Are they leaders because of ability to create and to lead? Or, are they leaders because of an ability to side-step issues and to deal in glittering generalities which lull the mass-mind to sleep? Or, are they just "mummers," whirled to the top, to so-called leadership, by the momentum, the centrifugal force of a fast-revolving capitalistic machine?

Anything short of clear-visioned, hard-hitting creative leadership fails to meet our present needs. The sooner this is realized the sooner will the unfit ones be eliminated, so that we can arrive at the new psychology and the new methods which are necessary to solve the problems arising from our first experience with poverty because of surpluses.

New Methods of Control Needed

Our capitalistic system is based on the theory of a legitimate profit at each turn, from the primary raw materials to the final consumer. In the past, alternate surpluses and shortages have acted as an automatic corrector of the seesaw, wherein at one point the public was gouged by too high prices and then the seller was hurt by too low prices. We have been so accustomed to "nature" righting these conditions for us that man never has been called upon to correct the evils which become particularly pronounced in times of over-supply. Therefore, the present era of universal surpluses finds us unprepared, to meet the situation.

There are two points in which we need a new psychology and new methods of control. These are:

1. It has been taken as a matter of course that any company could increase its production any time it liked and to whatever extent it liked.
2. In the matter of selling the accepted psychology has been that if a manufacturer, in possession of full information regarding costs, elected to sell at less than cost, that was his business.

Of course if we are to work on the theory that "individual rights" can be carried to the point where the individual can do whatever he pleases, regardless of the interests of the many, then the two theories above can be made to stand. But in that case it must be proven that the businesses are "individual," that they are solely the property of these active in the business, that the individuals have no limit on their liability, and further, that the business is not in any way the property of the public, through stock ownership. If the invested capital does represent public ownership the practices of producing in excess of the needs of the market, without some compensating return to the public; and the practice of manufacturing goods for sale below cost of production, can be seriously challenged. More on these points later on.

The Textile Background

Overproduction and destructive selling are not confined to the textile industry. However, each industry will have to diagnose its own handicaps. Those evils which are common to several industries then can be attacked by concerted action by the group that is hurt.

The term "textile industry" as used in this article is generic. However, the analysis herein will apply in some degree to each branch of the industry.

It probably is no exaggeration to say that textile manufacturing is one of the oldest industries in this coun-

try; also, its size and scope are much greater than most persons realize. Yet the industry is not in wholesome condition, nor has it been for a number of years. For investment it is unpopular; not only are dividends poor to nil, there is too much red ink in the capital column. It is harassing for the management, particularly for those whose creed and constant effort are upbuilding. For labor it is out of line with many other industries, especially when skill and type of workmanship are considered. For the consumer it has the greatest urge to a price-depressing buying psychology.

The reason for these conditions lies largely in the overprotected individualism which permits almost any kind of hurtful practice without the possibility of control being exercised, even though the practices injure the industry and the great majority of those in it, including stockholders, management, general employees and labor.

The industry has been crucified on the cross of individualism.

How can he hope to continue to build a sound structure?

An entirely new psychology will be needed to bring about a change.

In still another respect the industry has much for which to chide itself. It does not keep faith with the consumer.

Keeping Faith with the Consumer

Probably in no field depending so largely on individual purchasers for its outlet, is the ultimate consumer ignored by the producers as much as in the textile industry. There is an important element among producers and even among distributors who are opposed to advertising. Their psychology seems to be: "the public will *have to buy* textiles, let the stores do the advertising."

The textile producers would do well to study the effects of this psychology on their well-being, and the part it has played in failure to keep faith with the consumer.

Of course in each division of the industry there is a responsible group fighting for sound ethics and integrity, day in and day out, but their lot is a hard one. A relatively small percentage of bad apples can make a barrel of apples unfit for human consumption.

The practices to which we are able to point so definitely under present conditions as being harmful to the industry, have not been quick growths. They are the result of a transition that has been going on for many years; a transition widely deplored but not fought effectively. They are most felt now because there is no cushion under the market to absorb pressure, and no sign of one for some time to come.

Here are some of the changes which have taken place in the last 30 years, during which period there has been the greatest shift from businesses of individual ownership to corporate structures and public participation:

At the beginning of this century almost without exception mills created their own styles and cloth constructions. Quality and durability were of paramount importance. Every fabric had to measure up to the rules for "balanced construction." Thirty years ago no manufacturer would have dreamed of making a fabric of unbalanced construction. The penalty through loss of business would have been too severe.

Then life in America began to jazz up a bit. Fabric construction and durability began to lose their importance. Styling, design, color and "fads" became all important. Then the "sharpshooters" began to pick off the old-line houses. The sanctity of design and construction became a myth, told as a bed-time story to the younger generations.

A concern might spend thousands of dollars creating

styles and new constructions, only to find in an incredibly short time after release of their samples and booking of trial orders, competing goods on the market, apparently the same, but proving to have been constructed with some short-cut, some substitution, some skimping discernible only on exact and pains-taking analysis, but changes which affected the cost of production and more than likely had a bad effect on the quality of the finished goods.

Of course the market for the concern that created the style or design was destroyed, unless it chose to retaliate with a still cheaper construction than that offered by the sharpshooters. And that is what happened and is happening today. Balanced construction means little or nothing. Whole organizations are geared to style piracy and construction debasement, yet the average consumer simply cannot tell the difference between the constructions—when the purchase is made. Their grief comes later.

Let us take for illustration two articles:

1. Rayon flat crepe, a beautiful, popular, sensible fabric of which millions of yards have been sold. When this first came on the market it was made with approximately 120 threads to the inch in the warp and 56 threads in the filling. The crepe effect was obtained by a twist in the filling yarn of about 50 to 55 turns to the inch. It made up well, styled well, draped well, cleaned well and always looked well. Then the sharp-shooting began. A change was made here, a skimp there; a thread at a time, a twist at a time left out, with more stress on the finish so that the *eye appeal* would be there. Constructions as low as 80 threads in the warp and 40 in the filling, with a crepe twist as low as 25 turns to the inch, were foisted on the buyers, but always as "flat crepe." How about price? Lower, ever lower, but not reduced to the consumer as fast as were the quality and durability.

2. "English broadcloth" for men's shirts originally was made of a high-quality yarn, woven in a balanced construction. It was a delight to the eye, to the body and to aesthetic taste. Of course it was expensive. It had to be. Material, labor and time of spinning the yarn and of weaving the cloth made that inevitable. Then the sharp-shooting began. Details would be too uninteresting, but the debasement ran the whole gamut of substitution and corner cutting, until some of the so-called, so-advertised "English broadcloth" was of a quality so low that it would have been ostracized by any group of self-respecting sheetings.

Today there are literally hundreds of constructions offered as "flat crepe" and "English broadcloth." What chance has the ultimate buyer to differentiate? The evil does not stop there. At any moment a producer, needing orders, may have to choose between closing his plant and throwing his labor out of employment, or to reproduce "with a little cheapening of quality" any one of these constructions. What condition would the automobile industry, for instance, be in if at any moment one of the producers was forced to clear his machinery and begin building a relatively small number of cars of any one of a few hundred models, with appropriate cheapening of construction?

Dozens of other illustrations could be given, but the above will suffice to show that something has changed in the industry in the last 30 years; something has slipped. Also, it is proof enough that the textile industry need not look afield for things to do to restore profits and prosperity until, as an industry, it has convinced the buying public that it keeps faith with the consumer, and that the public need not always look for the lowest price on textiles on the theory that the odds are in favor of their being stung anyway. That is the psychology the textile industry has allowed to grow up in the minds of its customers. That is why buying of textiles is so much on a basis of bearing-down on prices. That goes a long way to account for such heavy capital losses, for inadequate profits, and tells why, through its necessarily inadequate treatment of labor the textile industry has so many spots contributing to social unrest.

Much Good Work Started; More Needed

In the face of these destructive conditions much is being done by individual concerns of the highest integrity to promote products of established and maintained quality. The Cotton-Textile Institute is constructively active in several directions, and is a strong influence for up-building in its field; the Durene Association is doing a notable piece of work, and the merchandising of Celanese and the "quality-control plan" recently launched by the Viscose Co. of America, are definite steps toward keeping faith with the consumer. However, separate concerns, small groups, etc., "while pulling their pound" are powerless to effect the big industry-wide reforms needed.

Here again a new psychology, new methods are necessary. The industry as a whole must be imbued with the need for this change and must join with other industries to demand modification of the Sherman Law and the Clayton Act, so that industry will be empowered to organize and to act for elimination or control of destructive elements and practices.

Complacent acceptance of over-production and price-destroying tactics must not be allowed to go on. It must be permissible for an industry to see that each producer uses a satisfactory cost system, and for each industry to gauge production to needs (based on reliable statistics), and to force operations to be limited to a certain pre-determined volume.

If our capitalistic system is worth preserving it is worth protecting. It cannot be safeguarded if irresponsible individuals or groups are allowed to increase production beyond any possible market need, and to sell merchandise indiscriminately at prices below cost of production. Liquidation of inventories below cost often is necessary and serves a useful purpose, but production of merchandise for sale below cost violates a cardinal principle of our capitalistic system by tending to destroy the profit of other manufacturers in the same line and to engender a war of wage-scale cuts which ultimately increases unemployment.

The sacredness of the investors' dollars should be more carefully safeguarded and the rights of labor to steady employment at suitable wages should be more soundly protected. The basic points at which to begin are to exercise reasonable control over production and to prevent the manufacture of merchandise for sale below cost.

The present condition of surpluses and vast facilities for over-production seem destined to be with us for some years to come. It is incumbent upon our leaders to recognize the urgent necessity to deal with this shift in fundamental conditions and to study the problem by trade groups, then by industries and finally with finance and labor, in order to achieve those basic changes which are necessary if we are to eliminate or bring under control the destructive forces which rapidly are consuming the capital resources of industry.

If we want social safety we must have economic stability.

Can we look to our leaders to lead?

Clothing-Fabric Integration

an Experiment for Improvement of Men's Wear Trade

RECENT acquisition by the Goodimate Co., manufacturers of men's clothing, Philadelphia, of the complete equipment of the Integrity Mills, manufacturers of men's wear worsted, is another interesting effort to achieve closer coordination through integration of manufacturing activities with resulting economies in costs of production. The move is regarded as significant, and the outcome will be studied carefully by the trade.

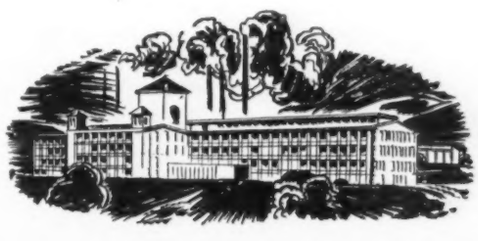
Under the plan as consummated, the complete mill equipment of the Integrity plant, consisting of 36 looms with complementary machinery, has been removed to the factory of the Goodimate Co., at 32nd and Reed Streets. There it will continue to operate under the name of the Integrity Mills, with W. M. D. Oursler, the former proprietor acting as superintendent and designer in charge, under the control of the Goodimate company. Rubin Lipsky, president of that organization, has stated that plans are under consideration for additions to the equipment as occasion may demand, and also for the erection of another building which will be equipped with fabric finishing machinery. The output of the Integrity looms will not in itself be sufficient to meet all the fabric requirements of the Goodimate Co., as it is said to consume ordinarily about four times the yardage which can be furnished by its new weaving department. The company will still purchase goods in the open market to meet standard requirements, but its own fabrics will be the nucleus around which the clothing lines will be built.

Mr. Lipsky in discussing the matter stated: "From the very beginning, uniformity of production has been a dominating principle in our business. We constantly sought to standardize our products at every step, until we finally reached the point where everything was being done under our own roof, except the weaving of the fabrics. By the move which we have now made, we will achieve complete standardization of production, even to the fabrics which go into Goodimate suits. Also, it will enable us to offer to the trade a larger percentage of weaves and styles exclusively ours, and thus eliminate to a large extent, for Goodimate customers, the competition of open market fabrics. It will also enable us to pass on to the retailer all savings."

In connection with this new policy of the Goodimate Co. for the weaving of a large portion of the goods consumed by them, the trade sees many interesting possibilities. Control of special styles and designs, as well as effects of finish, in fabrics for its own exclusive use, is regarded as an element of advantage which will mean much in the company's merchandising. Ability to stress fabric control as the basis in maintaining a uniformly high quality in their clothing lines, is regarded by many factors as the chief advantage offered by the unusual departure.

Some critics of the venture are rather skeptical as to the outcome. Such attitude is not unknown in parts of the textile industry where skepticism against innovation is too frequently to be found. There is a disposition to question the possibility of maintaining exclusive control over designs and styles for any length of time because of the unfortunate tendency toward pirating designs or styles that sell well. Such goods quickly make their appearance at a lower price by the sacrifice of quality and construction. Additional critics argue that with the prevalent lack of stability of orders for fabrics on a declining market, with claims and rejected goods working to offset the first cost of the goods, a close connection with a weaving mill might be a disadvantage to a cutter as compared with a competitor who buys his goods in the open market and plays a close game. It is unfortunate that such conditions exist and it is possible that some day they may be erased.

The Goodimate-Integrity integration recalls the decision earlier in the year of the Goodall Worsted Co. to discontinue the sale of Palm Beach fabrics to the trade and instead to manufacture these cloths into suits so that the company might maintain complete control over the Palm Beach trade mark and in this way more satisfactorily meet the responsibilities which this product entailed. The two cases are similar in that both represent a consolidation under one head, of what were previously two separate industries. Both companies are aiming at better control from fabric to finished garment, with the attending economies through elimination or reduction of intermediary profits. Each company has made its move in the opposite direction, in that the Goodall company, a manufacturer of fabrics enters the clothing industry, while the Goodimate Co., a clothing manufacturer goes into the production of fabrics. There are examples of similar integration in the past which did not last. These new efforts conducted under modern conditions and enlightened by the experience of the past may prove worthy of broader study.



Fabric and garment manufacture as a continuous process under one roof has seemed theoretically excellent but practically there have been stumbling blocks. The efforts here mentioned may lead to new and safer paths.

Dexterity Shown in

Fabrication of Velvet Brocade

By James Chittick

AMONG the novelty pile fabrics now being offered is a velvet brocade which is handsome and smart in appearance, lovely to the touch, and most satisfactory in its draping properties. The main body of the cloth is a close, well-covered, lustrous velvet, and scattered through it—in the example illustrated—are floral and leaf designs, the design parts of the fabric representing approximately one-quarter of the area, and the ground the remainder. The velvet ground in this material is a rich black in color, while the pattern shows clusters of red leaves and flower petals with yellow centers alternating with others of the same character, but yellow in color with red centers. In the middle of each of the figures is a small dot of black velvet.

The foundation material of the fabric, which—free from any pile—makes the pattern, is a modified crepe georgette, being made of crepe-twist silk both warp and filling. Its lusterless, mat appearance, contrasts sharply with the surrounding lustrous velvet.

In the finished goods, this foundation averages 92 ends and 110 picks per inch. Counts made when a judicious amount of stretch is put upon the cloth, to bring it into a condition akin to that in which it was woven, show 84 ends and 104 picks per inch. This represents a shortening in length in the manufacture and finishing of a trifle less than 4%, and a shrinkage in width of approximately 9%. On the basis of these figures, if the cloth is 40 in. between selvages, and if the selvages are ½ in. in width, making 41 in. over-all, the fabric would have to be laid about 45 in. in the reed.

In a regular crepe georgette the warp ends are arranged two right-hand twist, two left-hand twist, and so on alternately; and the filling is composed of two right-hand twist picks and two left-hand twist picks, alternately. Also, the proportion of picks to ends is approximately the same, and a twist of 65 turns per inch or more might be looked for.

Fabric Construction

In the fabric before us, the warp has been arranged, two right-hand twist threads and two left-hand twist threads, alternately, the same as in a crepe georgette, but the filling is entirely right-hand twist. Although this arrangement of the filling might be expected to impart a wrinkled, or crépon, aspect to the foundation material exposed in the figures, the twist given to the threads is far less than would be the case in a crepe georgette. Tests made upon the material show, for the threads tested, a twist for the warp of approximately 35 to 40 turns per inch and for the filling threads a twist of 40 to 45 turns. If a more extended series of tests were made, it is possible that all of the threads might be found to average the same in twist. This crepe twist appears to be a three-thread, made from 13/15-denier raw silk.

Since the picks are much more numerous than the ends, 110 as against 92 in the finished cloth, it might be expected, with a silk all of one-way twist, that the material would be given into a somewhat pleated effect, like that of a crépon. In reality, the relatively low twist of the threads, the firm velvet body of the cloth—and, no doubt, judicious treatment in finishing—prevent excessive contraction.

The velvet face of the goods is made of rayon of the regenerated-cellulose type. The height of the pile from the foundation to the top is a trifle over 1/16 in. After the steaming process, the pile has been brushed longitudinally, and apparently has been pressed. The pile, of course, is made in the usual way, from warp ends of rayon alternating with the crepe-twist threads which constitute the foundation warp. It is close and dense, and, if roughed up, the fibers immediately fall back into place. The fabric is woven on a "double-velvet" loom.

Close examination of the figures discloses that the color on the back is purer than on the face. Taking the red figures, for instance, the back is fairly uniform in color, although slightly mottled with small whitish specks; on the face the whitishness is more noticeable. This mottled effect is not observable, however, in the yellow figures.

Producing the Designs

The manner in which these bare areas of the foundation crepe material have been produced, amidst the surrounding velvet structure, appears to the writer to have been as follows: First the goods were boiled off in the usual way, and then dyed with a direct black, suitable for printing on by the discharge method. On this foundation the figures were printed on the back in the colors desired, in this case only two colors being required—the red and the yellow.

Printing appears to have been done by the screen method; that is, by the use of stencils through which the color paste was forced onto the fabric. With the color was mixed a discharge agent which, did not affect the colors with which it was mixed, but destroyed the black foundation color. This alone, of course, would not eliminate the pile at the printed places, and accordingly the printing would not be apparent on the face. Therefore there was also added to the printing paste a chemical agent which destroyed the rayon, but not the silk.

Concerning the chemical aspects of these treatments, a well-qualified authority in the dyeing and printing

branch of the industry has kindly afforded to the writer the following comments:

"In the sample illustrated, basic colors have been employed, the printing paste being prepared with the aid of gum tragacanth, rather than British gum. For the discharge, either Hydrosulfite NF or Rongalite may be employed, but the acid character of the carbonizing agents favors the use of Decroline or Protalin with tartaric acid. Destruction of the rayon fibers is caused by aluminum chloride, which heat decomposes, as in wool carbonization, and liberates hydrochloric acid.

"This type of printing, which is known as Damoisette printing, requires a run through an ager; a passage through a hot flue in which there is only dry heat, no steam; a rinse in warm water to remove the excess gum and acid products; and finally, drying and finishing. The absence of white specks depends upon the good penetration of the color paste into the fabric. In these goods the pile threads are quite tightly woven into the back, and offer considerable resistance to the complete penetration of the color. When they have been carbonized and removed, a white spot marks their former location. It is strange that the discharge agent has seeped in where the color could not go, but this is a common effect in discharge printing, often seen as a halo around large blotches. Better solution of the dye—which will be obtained by the use of some solvent, such as pyridine or diethylene glycol—and proper adjustment of the viscosity of the paste will do much to bring about perfect penetration and a full deep shade on the face of the goods."

Ageing and Finishing

In the passing of the goods through the ager, in which they are subjected to the influence of steam, the decolorization of the black foundation will be completed where the printing has been done; and in the following passage of the goods through the hot flue the disintegration of those parts of the rayon material with which the carbonizing chemicals have been in contact will be effected. Therefore those parts of the rayon fibers composing the pile where they have been looped round the foundation filling threads will be completely eaten through, and the pile at these places will no longer be attached to the body of the fabric.

The result is that there is nothing to hold these pile fibers in position, and they are practically loose on the surface of the cloth.

The rinsing of the goods which follows is very thorough, so that all chemicals, thickening pastes, and unattached coloring matter will be completely removed; and, of course, much of the unattached pile will naturally come away in this process.

After the goods have been dried, the face is subjected to a brushing treatment, doubtless with a cylindrical revolving brush, which will brush away all of the loosened pile from the figures. The printed figures will now stand out clear and bare amidst the surrounding velvet ground. After this operation, will follow the usual steaming, brushing, pressing, and other finishing treatments.

Taken all in all, this is a very cleverly constructed fabric; it does not crease appreciably and is most atractive in appearance; it should prove durable and no doubt will have a wide field of usefulness.

Velvet brocade, showing transparency of floral pattern

Weave Combinations *in Relation to the Thread-Intersection Theory*

By R. A. C. Scott

◆ *In a previous article the writer discussed at length the practical utility of variations in the common twill, emphasizing its unlimited possibilities in the designing of plain and fancy fabrics. By way of continuing the subject in its proper sequence, Mr. Scott has prepared the following treatise on weave combinations which it is hoped will prove a useful guide to both the student and the practiced designer.*

THE combination of two or more weaves in stripe, check, or figured order covers a very extensive field in the production of new weave effects. It must be borne in mind, however, that all or any of the various weaves cannot be suitably combined to produce a marketable fabric. There are certain common characteristics which weaves intended for combining purposes must possess.

Some knowledge, therefore, of the construction and the relationship of one weave to the other is necessary before proper judgment can be exercised in their suitable selection. Moreover, the class of fabric for which the combined form of weaves is intended must be considered. For instance, worsted cloths allow of looser types of weaves than woolen cloths, due to the fact that the former are made of finer yarns. As a consequence, they employ more ends and picks per unit space, producing a firmer texture, which, generally speaking, counteracts the loose characteristics of the weave or weaves employed. In other words, the smaller the yarns, the larger the flushes admitted in the constructed fabric. For example, a cloth made of 1½-run yarn having 22 threads and picks per inch would be very coarse and open in appearance, if the eight-harness twill (4/4-move 1) was employed; but with the plain weave, quite a firm and closely constructed piece of cloth would result. This clearly shows that it is necessary to have the nature of the fabric in view when selecting weaves for purposes of combination.

Selection of Weaves

In order to produce a uniformly constructed cloth, care should be taken to employ weaves having a similar number of filling intersections; otherwise the cloth will be uneven in texture and defective in appearance. Let us refer to Fig. 1 for a moment. Here we have a representation of a sample of cloth of a striped description. The threads in section *A* are intersected on the eight-harness basket principle, while those in section *B* are the ordinary 2/2 basket. It will readily be noticed in this instance that the warp and filling intersections of section *B* are of a much firmer order of interlacing than applies to section *A*; and, due to increased frequency of the crossings, greater difficulty will be experienced in beating up the picks of filling. In section *A*, however, a much looser type of weave is formed, which admits of a closer

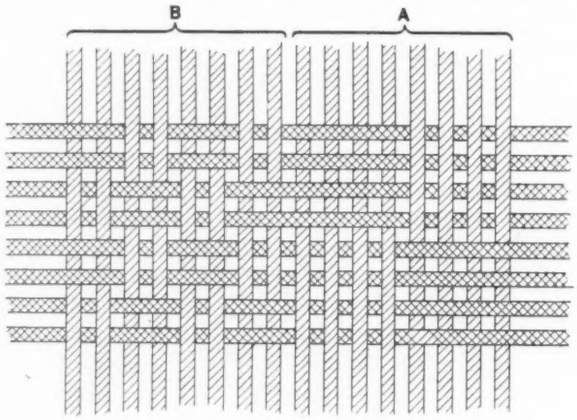


Fig. 1

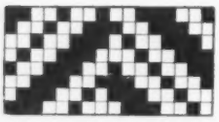


Fig. 2

Fig. 4

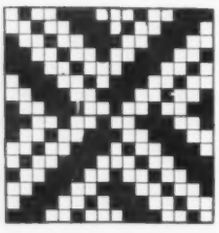


Fig. 3

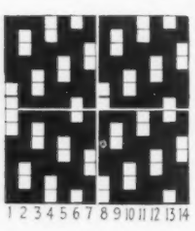


Fig. 5

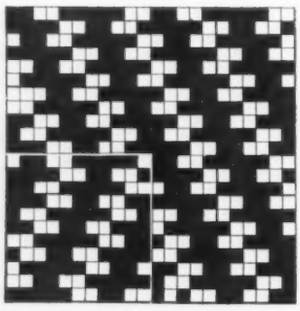


Fig. 6

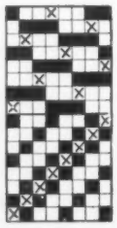


Fig. 8

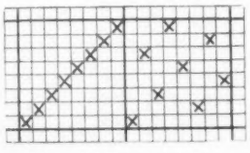


Fig. 7

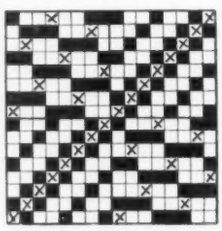


Fig. 9

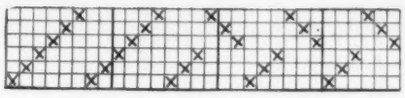


Fig. 10

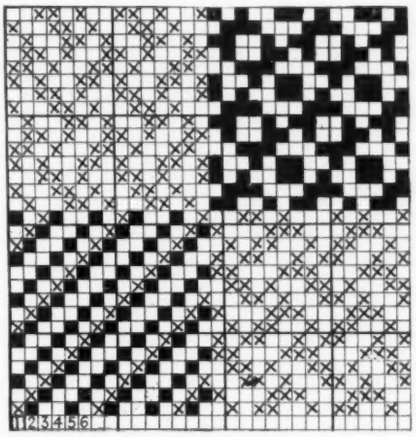


Fig. 11

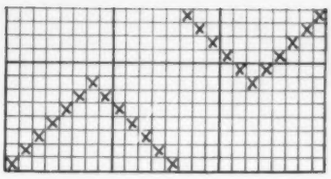


Fig. 12. (Harness draft for Fig. 13)

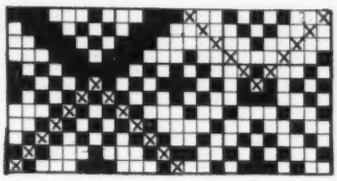


Fig. 13

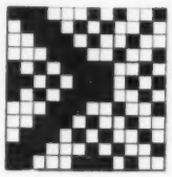


Fig. 14. (Chain draft for Fig. 13)

and more uniform picking arrangement. Consequently, a cockled effect would result from section *A* in the finished cloth, forming an unevenly surfaced fabric, which would be more apparent as the width of stripes are increased.

As a general rule, tightly and loosely constructed weaves should rarely, if ever, be combined, as they do not admit of the same degree of density in picking and cause textural irregularities in the finished fabric. The only instance in which flushes may be varied without detriment to the regularity of the fabric is in figured designs, in which the loose weave is broken in its continuity, being surrounded by the ground weave—generally of a firmer type. In these cases the irregularity of the figured portion of the cloth prevents faulty results, as pointed out in stripe formation at Fig. 1.

Proper Joining of Weaves

We shall now consider a few examples of stripe, check, and figure effects secured by combining various types of weaves. Before launchnig into this phase of the subject, however, it is perhaps advisable to stress the importance of correct joining where the different sections of the weave come together. In every case long floats should be avoided at the junctions of the weaves employed. As a guide it may be stated that if possible no longer float should be made at the junctions than there is in the weave. Should the occasion arise when this is not practical, aim at arranging the weaves so that the long float or floats are on the back of the cloth rather than on the face. At times it is necessary to modify one or both weaves where they join, in order to avoid excessive floats; or again, by introducing between them a firmer weave, such as plain, long floats are obviated without altering unduly the general appearance.

By classifying the stripe- and check-weave combinations under the following four respective headings and discussing them in the order set down, it is hoped that a clearer conception of the subject will be afforded the reader: (1) designs employing the same weave in herringbone formation; (2) designs employing different weaves but derived from the same base; (3) designs obtained by combining warp- and filling-face weaves; and (4) designs made up of combinations of weaves not having the same basic formation.

It is hardly necessary to consider at length the designs which come under the first category; suffice it to say that they are chiefly of twill formation, such as the 2/2, 3/3, three-up-two-down-one-up-two-down twills, etc. By referring to Figs. 2 and 3, which show a stripe and block-check formation combining the right and left twills of the three-up-two-down-one-up-two-down move-one weave, the principle of their construction will be readily understood. The herringbone formation of weaves—such as warp sateens, warp twills, whipcords, and warp corkscrews—is only suitable for stripe patterns of soft color contrast. Due to the preponderance of warp flushes, which make unavoidable longer surface floats at the junctions, they are generally considered unsuitable for combining in check formation.

Fig. 4 illustrates the 5/2 move-three whipcord weave, in a stripe effect; and Fig. 5 shows the same weave in check (guard) form. In the latter example, threads one, four, eight and eleven show a ten-float at the junction; and threads two, three, nine, and ten show floats of eight each, which assuredly renders this weave impractical for check-combining purposes.

By using the five-up-one-down-one-up-two-down-one-up-one-down move-two whipcord weave in a guard or continuous check formation, as illustrated at Fig. 6, a fairly practical combination results. This, however, is seldom if ever employed in actual cloth weave decoration, on account of the fabric construction of this particular cloth being set approximately two threads in warp to one in filling, thereby decreasing the length of the filling float in the finished fabric in greater proportion than the warp float. Consequently it would be highly advisable to keep away from check combinations in fine warp-faced cloths employing weaves of the whipcord order of construction.

Draft as Basic Foundation

By using the draft as a basic foundation for weaves, simple yet effective stripe effects are obtained with very few harnesses, while a check design is formed by arranging the pegging plan in sections corresponding to the draft. At Fig. 7 an arrangement of a straight and sateen draft is given; and by adding marks, as shown, in a vertical and regular order, a stripe design results, as indicated at Fig. 8. Then again, by combining these two sections in alternate order, a check design is formed, as

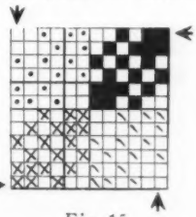


Fig. 15

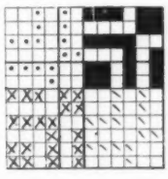


Fig. 16

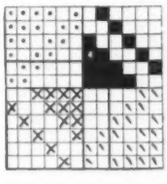


Fig. 19

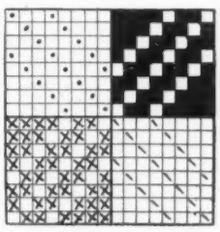


Fig. 18

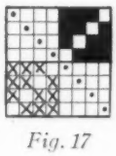


Fig. 17

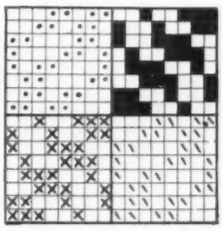


Fig. 20

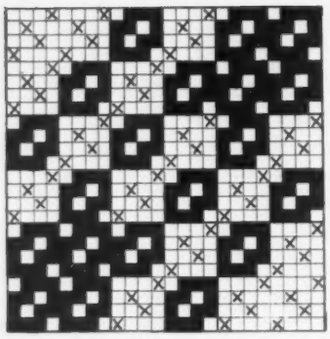


Fig. 21

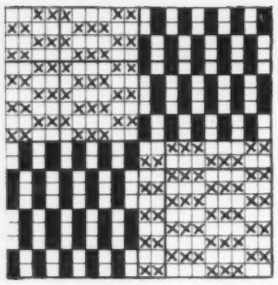


Fig. 22

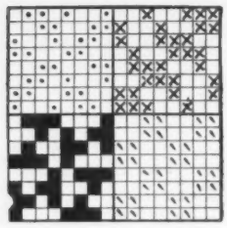


Fig. 23

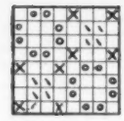


Fig. 26

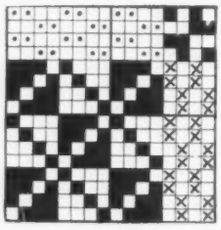


Fig. 24

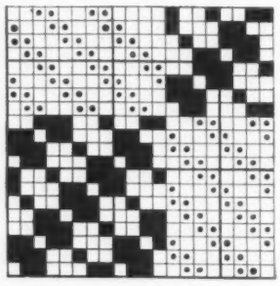


Fig. 25

illustrated at Fig. 9. The first eight picks of Fig. 8 represent the weaving plan for stripe design, whereas the complete check design results from using the whole of Fig. 8 for the pegging plan; i.e., sixteen picks. It will be noted that both the check and the stripe designs are weavable on eight harnesses by using the plans as specified.

The design given at Fig. 11 illustrates the construction of a check design by combining weaves that are based on the two-up-one-down-one-up-two-down move-one twill. The draft, which is illustrated at Fig. 10, is in a straight and broken twill order. The complete check design (Fig. 11) is composed of four different weave effects, which is due to the fact that marks have been added in a horizontal direction to the basic motif in the upper portion instead of vertically, as used in the lower portion. Therefore the first six picks of the design represent the pegging plan, which, combined with the draft at Fig. 10, results in the design as indicated at Fig. 11.

Other bases may be combined on this principle; but care should be taken to select a suitable base weave and to arrange properly the different sections, as bad floats may readily occur at the weave junctions, especially in check designs.

Another method of constructing fancy stripe designs is illustrated at Fig. 13. In this example the draft, Fig. 12, is in two sections, in the first of which the threads are arranged seven to the right and six to the left, and in the second, six to the left and five to the right. By using a different series of markings or risers on the first draft sections than are used on the second section, a distinct diamond stripe effect is obtained, which will be readily understood by referring to Fig. 13, in which crosses represent the basic plan or draft. The pegging plan is illustrated at Fig. 14.

Other modifications of this method of construction can be effectively applied in a practical manner to this principle of weave combination based on straight- or broken-draft arrangements.

Warp and Filling Faces Combined

More contrasting effects are produced by combinations of warp- and filling-face weaves, particularly where there is a marked difference in color used in warp and filling yarns. By combining two opposite twill or sateen weaves, "dice check" designs are produced. In constructing these dice effects, it is very essential to arrange the weaves used so that they cut at the junctions in every direction in order to prevent unnecessarily long floats and, at the same time, to give a firmer and cleaner sectional connection.

The arrangement of the marks of the base weaves is so made that the first and last picks and the first and last ends are alike when followed in opposite directions. For example, in Fig. 15 arrows indicate the direction in which the threads should be followed. Illustrations 15 to 20 inclusive all represent constructions based on this principle, the different stages of building being represented by different marks.

Fig. 15 gives a design of a crepe character, which repeats on twelve ends and twelve picks. Fig. 16 is termed a basket weave and is constructed from a 6x6 unit, while Figs. 17, 18, and 19 come under the category of "barleycorn" weaves, although 17 is commonly known as the "dice crow." The design in Fig. 20 is really the "mayo" weave reversed in sectional form. Any of these designs may be increased in check form by extending each section to the size required.

In Fig. 21 a large design is illustrated, using the first six ends and picks of Fig. 15 as a motif and employing the four-end broken crow, warp flush, for the motif and the four-end broken crow, filling flush, for the blanks—each mark or blank representing four ends and four picks.

A warp- and filling-face rib or cord check is shown at Fig. 22 using the three-and-three rib construction. Note that each section starts with a float of two in order to avoid any floats exceeding three where the weaves join. In like manner, corkscrews and *(continued on page 44)*

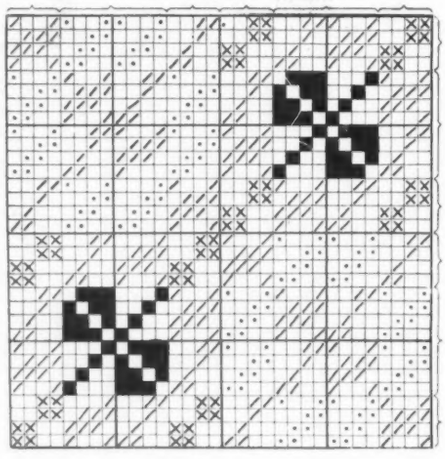


Fig. 27

Attaining Satisfactory Operation of Full-Fashioned Machines

By M. C. Miller, M. E.
Mechanical Engineer, Manville, R. I.

◆ *In this installment of his treatise on erecting, aligning, and adjusting the full-fashioned hosiery machine, Mr. Miller discusses gauging of the sinkers, installation of the catch bar, setting of the knock-over motion, and certain other steps necessary toward bringing the machine into working order. His next article will discuss the cam motions for narrowing the fabric.**

THE needle bars should be attached without adjustments being made. Care should be exercised, however, to see that the hinge pins fit snugly, as any play at this portion of the needle motion will result later in the production of inferior fabric.

The sinker and jack heads can now be set into position, aligning pins being placed in the parts provided. All pinned portions are of course self-aligning, while the parts that are not pinned must be carefully gauged from previously checked and aligned surfaces. The sinker heads, therefore, should be very carefully gauged from the machine table to both ends of the press edge, in order that the pressing edge and the sinker head as a whole will be absolutely parallel with the table of the machine.

Gauging of Sinkers

Before tightening the bolts holding the sinker heads, the sinkers should be carefully gauged in relation to the needles in order that they may be centrally disposed. This gauging is very important, for on it depends the future successful operation of the machine.

The writer prefers to bring forward, but only slightly ahead of the press edge of the head, two immediately adjoining sinkers in three or four scattered positions along the length of the head. He then gauges the needles between these test sinkers while the needles are in their high position. During this test, the needles are moved as near the press edge as is possible, so that the test sinkers need overhang the sinker bed of press edge as little as possible. A magnifying glass should be used for this part of the erection, with a strong light held immediately over the position of the bed being tested, the object being to cast as few interfering or confusing shadows as possible. It is a good idea to set the head in a position where the sinkers appear to be centrally disposed, to make a similar setting on the adjoining sinker head, and then to recheck the previous head, taking every precaution to sight for gauging as nearly parallel to the sinkers as possible.

After this sidewise setting of the sinker head is made, a recheck of the parallelism to the table should be made; and if for any reason this has been disturbed, a recheck of the sinker centering must be made.

The jack heads should now be gauged for parallelism, using the gauge provided therefor. This in most machines is a fixed gauge, seating on the slur-cock rail.

The verge plates of the sinker heads have usually been properly set during the erection. They should nevertheless be rechecked from the press edge for distance and parallelism.

The Catch Bar

The slur-cocks can now be adjusted to bring the jack sinkers within a sinker thickness of the verge plates. Then the catch bar can be placed in the machine, the front edge of the bar resting on the top of the jack-sinker butts and about two sinkers being placed between the butts and the bar at a number of places along the bar, preferably near the position in the bar's length where the lift-thimbles are fastened. By turning the machine until the front lifting catch-bar rollers are on the high portion of their cams, without moving the catch bar, the catch-bar lift levers are guided one at a time and caused to contact with their thimbles. After this, the set screws of the catch-bar lift levers can be tightened; and the sinkers that have been placed between the catch bar and the jack butts, removed. This removal of the shim sinkers may cause the catch bar to go down slightly. For this reason a recheck should be made to make certain that a clearance of one to two sinker thicknesses exists between the top of the jack-sinker butts and the bottom front edge of the catch bar.

The links for connecting the catch-bar in-and-out motion can now be connected and adjusted by turning the machine so that the rollers of the catch-bar in-and-out motion are on the high throw of their cams. In this position the catch bar should be adjusted to bring all the sinkers to within a clearance of one sinker thickness between all butts and the verge plates. Care should be exercised to see that during the rotation of the machine, in the checking and rechecking of this forward motion of the catch bar, the sinker butts are not at any time jammed hard against the verge plates. An additional check of the entire machine should also be made, using the adjustable gauge usually provided, to make sure that the forward position of the catch bar is parallel with the edge of the machine table.

The knock-over bits should now be gauged to insure that they stand absolutely central between the needles, checking them in a similar manner to that previously described for centralizing the sinkers. All such centralizing should be done as near the base of the needles as possible.

*Previous installments of this series appeared May 31, July 26, Oct. 4, and Nov. 29, 1930; and March 21, April 25, July 11, Aug. 8, Sept. 19, and Nov. 28, 1931.

The machine can now be turned by hand until the hook end of the needles can be gauged with the upper surface of the sinkers. This gauging should not be done with the fingers; a better method is to use a piece of metal resting on the sinkers, the needles being so positioned that the erector can feel that the metal test plate is just touching the hooks of the needles. All needle heads must be similarly set to this average hook-sinker level, there being adjusting screws and nuts provided at the hinges in each needle up-and-down lever.

Knock-Over Motion

The knock-over-bit motion can now be set by adjusting the stop hooks found at each of the four or five rollers for the knock-over-bit roller levers, a gauge usually being provided for adjusting the rollers so that they will have $\frac{1}{32}$ in. or more clearance from the rest portions of their cams. After this, each section of knock-over bits must be independently adjusted so that a thickness gauge provided for the purpose will just fit between the under side of the sinkers and the top of the front portion of the bits.

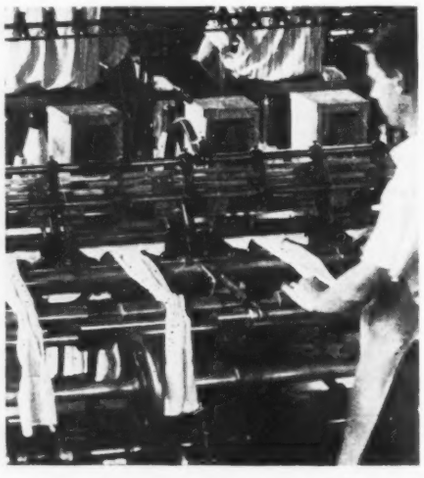
Some machines are provided with adjustments on only one side of the knock-over-bit bars. This is a distinct disadvantage; for, if the bars that hold the bits are twisted or out of line, the bits cannot be adjusted from the sinkers an equal distance at each end of the section—in which case only an average setting can be attained. That is, at one end of the section the gauge will fit tightly, and at the other it will fit loosely. The best that can be achieved under these conditions is to set the center of the knock-over-bit section to the gauge. Machines that are provided with adjustments at each end are therefore to be preferred, as the erector can adjust the bits an equal and like distance in relation to the bottom of the sinkers.

Assembling Coulier Motion

The coulier motion can now be assembled, care being exercised to see that all pins fit freely and snugly into their holes and that the proper tooth of the coulier-motion bevel gear matches a tooth of the coulier-motion pinion on the camshaft. If the teeth are not marked, a gauge is usually provided for setting the coulier-motion cam in relation to the camshaft.

The coulier-motion cam rollers should now be gauged for at least sinker-thickness clearance, the knitting machine being carefully turned to note that there is less than a sinker-thickness clearance between the rollers and their cam during a rotation of the machine.

A check should now be made to see that the upper end of the coulier-motion arm, which is later connected to the slur-cock slide, moves parallel to the slur-cock slide rail during its entire stroke; and thereafter the coulier link connecting the motion to the slur-cock rail can be attached. On some machines the coulier cam is so timed in relation to the cams on the camshaft that when the cams later are in line with their cam-setting gauge, the slur-cock has brought the first jack sinker to the verge plate.



Knitter operating a full-fashioned hosiery footer

The yarn-carrier rods and carriers are now put into position, one set of carriers being adjusted so that their tubes stand outside and just clear the outer jack sinker, care being exercised to see that the carrier stop adjustment and the ratchet and screw motion are properly set so that the carriers stand at approximately right angles to their rails. This adjustment should be rechecked later so that the tubes stop exactly between any two jack sinkers.

The fabric take-up, snapper motion, yarn supports, boxes, etc., can now be attached and put into position. If no gauge is provided, the snapper-motion cam is set so that the yarn can run freely to the yarn carrier during the sinker motion and so that there is no take-up action on the yarns prior to the time the needle hooks reach the bottom of the sinkers during their upward stroke. This crude setting of the snapper motion is temporary, unless the machine is provided with a gauge; for, while the machine will knit with the motion set in this way, the time of yarn take-up is very important in so far as the production of selvages is concerned. (The formation of selvages will be discussed in succeeding articles.)

The welt-bar bridges can now be placed on the machine. Care should be exercised in this to see that, when the knock-over-bit rollers are placed on their intermediate cams or welt set-up position, the welt hooks just clear the top of the knock-over bits. The bridges should be shimmed or filed to make certain that there is no interference to side motion between the hooks and the knock-over bits.

Knitting Test

Test knitting can now take place on one section, the welt rake being inserted to engage with the first course, as is customary. After a few courses are knitted with the regulator motion adjusted to produce the tightest stitch possible with the particular yarn being used, the needle up-and-down motion should be adjusted for the individual section on which the knitting is taking place, so that the yarn is held snugly kinked but does not overtension the kinks while they are being drawn over and off the nose of the sinkers. Continued motion will show whether there is undue strain placed on the kinks as they are drawn over the knock-over bits; and if such strain results when the loops are at the rising swell of the knock-over bits near the press edge, the knock-over bits must be adjusted, care being taken to see that the tightest loops that the machine is ever intended to knit are being produced. At this time, when knitting the smallest loops, the needles should just commence to show a flexing strain. If no cutting results, it is an indication that the knock-over bibs and needles are properly set in so far as up-and-down motion is concerned.

The needle in-and-out motion must now be adjusted so that sufficient press is applied. A reasonable and safe press on a 42-gauge machine is with the hooks flexed about .040 in. The adjustments noted for the needle up-and-down and in-and-out motion should all be made by adjusting the position of the rollers and not by moving the adjustable portions of their cams. These latter

adjustments should be made only in extreme emergency for a particular section or sections.

A check-up should also be made of the dividing press, which is the position of the knitting elements at the end of the dividing catch-bar motion, after yarn kinking by the jack sinkers is finished. In this position all of the needles should be flexed slightly, yet enough to insure that the yarn previously kinked by the jack sinkers is evenly re-divided by the dividers and held snugly against the shanks of the needles as they move downwardly. The foregoing should be read in view of previous Figs. 41 to 45.

Test knitting should now take place on the other sections; and thereafter the narrowing machine may be attached, care being taken to use the gauges provided. A check of the narrowing setting should be made at the time the points engage with the needles the first time to see that, while sufficient press is given, no more pressure is applied than is necessary to flex the needles about .040 in.

The up-and-down setting of the narrowing machine should be checked to see that upon the first engagement the points engage with the needle eyes intermediately between their possible high and low positions. This can be determined by taking a point out of each point holder and marking on it the position of the top of a needle hook at the time the point is buried in a needle eye intermediate between the position where the point, by engaging any lower, would not be completely buried in the eye, and where it would, by engaging any higher, interefere with the needle beard. Again fitting these test points in their holders will enable the erector to see readily whether the narrowing machine is in the proper up-and-down setting for correct point-engagement with the needle eyes.

The next article will illustrate and describe all cam motions necessary for narrowing the fabric.

POINTERS ON PATENTS:

Delay in Filing a Patent Application

MERE delay in filing the application will not ordinarily prevent the grant of a valid patent. In fact, the laws of this country allow an inventor two years' grace after the device of the invention is placed on sale or in public use to file his application. This provision of the law has a two-fold purpose: to give the inventor ample opportunity to test the market for his invention, and to prevent him from unduly prolonging the monopoly of his patent by delaying to file the application until threatened by competition.

The law also gives the inventor two years after the invention is described in a printed publication or a patent to make his application. Hence, if another inventor describes the invention in a trade journal or secures a patent therefor, the first inventor has two years after the magazine is published or the patent granted to prove his own right to a patent. In case the second inventor has already filed an application or secured a patent, the first inventor to prevail must prove that not only was he the first to conceive the invention, but also the first to reduce it to practice by the building of an operative device; or in case he did not build an operative device, that he was exercising due diligence in building the device or in preparing to file a patent application at the time the second inventor came into the field. However, if the first inventor, after building his device, suppressed the invention until after the second inventor made his invention, he will lose his right to a patent. The same result follows if the first inventor delays filing his application until after he has practiced his invention as a trade secret for two years.

A public use or sale is sufficient to defeat a patent whether the use or sale was with or without the knowledge or permission of the inventor. But it must have occurred more than two years before the application was filed. It is not essential that the device was actually sold, provided it was placed on sale. However, if the use or sale occurred in a foreign country, that fact alone will not invalidate a regularly issued patent in this country, if the inventor at the time he completed the inventive act did not know of the foreign use or sale.

A single use or sale is enough to defeat a patent and cannot be mitigated or excused. However, the courts will in a worthy case allow an inventor a wide latitude in proving that an apparent public use was merely for the purpose of experimentation. Thus, in a celebrated case the Supreme Court saved a valuable patent for an improved paving by holding that an alleged public use in a public highway for a period of seven years was but an experimental use to test the wear and tear of the paving. Obviously, a paving cannot be tested except in a public place.

However, it cannot be emphasized too strongly that if the inventor makes a device and gives or sells it to another to be used without limitation or restriction, or injunction of secrecy, and it is so used, it is a public use, even if confined to one person.

Though less than two years' public use or sale of the invention will not prevent the grant of a valid patent in this country, it may indirectly prevent the obtaining of foreign patents. For instance, if the device is described in a periodical before the application is filed, patents will be refused in many of the foreign countries. Then again, some one may introduce the device into Europe and keep the inventor from obtaining patents in those countries where prior use is a bar to a patent grant. In fact, in some countries, such as England, the first one to introduce the invention into the country can obtain a patent even against the first inventor. The inventor may thus be prevented from using his own invention in those countries.

This article is based on Bulletin No. 8 of the Patents Committee of the Technical Association of the Pulp and Paper Industry and is presented to readers of TEXTILE WORLD through the courtesy of this committee.

Effect of Lubrication *on Use of Exhaust Steam for Process Heating*

◆ *The first installment of this article* (TEXTILE WORLD, *Nov. 7, 1931*) *discussed the use of exhaust steam for process heating in textile mills, and the necessity for careful selection of steam cylinder oils. This part describes the functions of oil separators and considers the effect of oil on boiler operations. The article is reprinted by courtesy of the Texas Co., from a recent issue of* LUBRICATION.

THE presence of moisture in steam will usually result in a film of straight mineral lubricating oil being rapidly washed off from the cylinder walls and other surfaces with which the steam comes in contact. Therefore, to secure proper lubrication under wet-steam conditions, it is necessary to increase the rate of flow of the straight mineral oil, or substitute an oil which contains a certain percentage of fatty compound, such as lard oil, degras, or tallow.

The use of a straight mineral oil to lubricate wet steam is customary only where the presence of a fatty oil in the exhaust steam is objectionable. The increased amount necessary to insure proper lubrication will often result in imperfect atomization. As a consequence, oil accumulations in the cylinder will be prevalent and carbon deposits developed. Especially will the above be true in multiple expansion engines equipped with re-heaters, the high temperatures to which the oil is subject being very conducive to carbonization. In poppet-valve engines, carbon formation of this nature may often cause imperfect operation of the valves.

Compounding Aids in Emulsification

Where a compounded oil is used, an emulsion is developed by the moisture in the steam reacting with the fatty component. The lubricating film thus has a greater affinity for the cylinder walls and other wearing surfaces and becomes highly resistant to the washing action of the water in the steam. Naturally the greater the percentage of moisture in the steam the higher should be the fatty compound content of the lubricant. In general, the compound should not exceed 10% however, except in extreme cases of abnormally wet steam. It should be remembered that an excessive amount of fatty compound, beyond that necessary to form the requisite emulsion, will not improve the lubricating value of the oil. In fact, it may even be an objection, especially under continued exposure to high temperatures, on account of the tendency that animal fats have to decompose under such conditions.

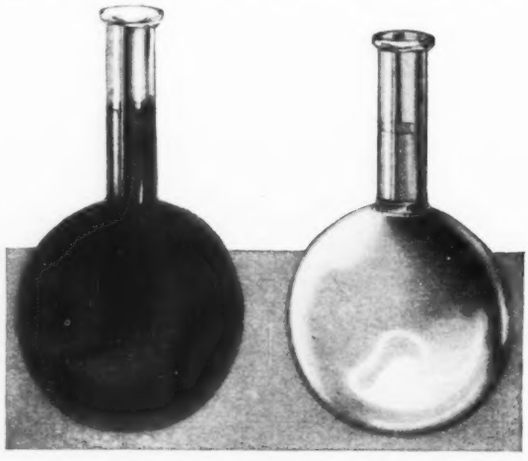
In regard to the proper amount of compound to use in an oil, it can be said that this should be just sufficient to maintain a film of oil on the cylinder walls. This is especially true where the exhaust steam is to be used for feed-water heating or in process work of any nature. Under such conditions it is more important than ever to observe caution in selecting and using steam cylinder lubricants. Present-day practice is more and more to reduce the quantity of compound and to improve its quality.

That tendency in compounded oils which causes them to unite with water to form emulsions in the cylinders also prevents ready separation from water in condensed steam; furthermore, the more completely atomized the oil, the more difficulty will it have in separating from water. In this respect, it also is of interest to note that compounding improves the atomizing ability of the average cylinder stock. For this reason it must be confined within the lowest possible limits where exhaust steam is to be used for open feed water or process heating purposes.

Engine Construction

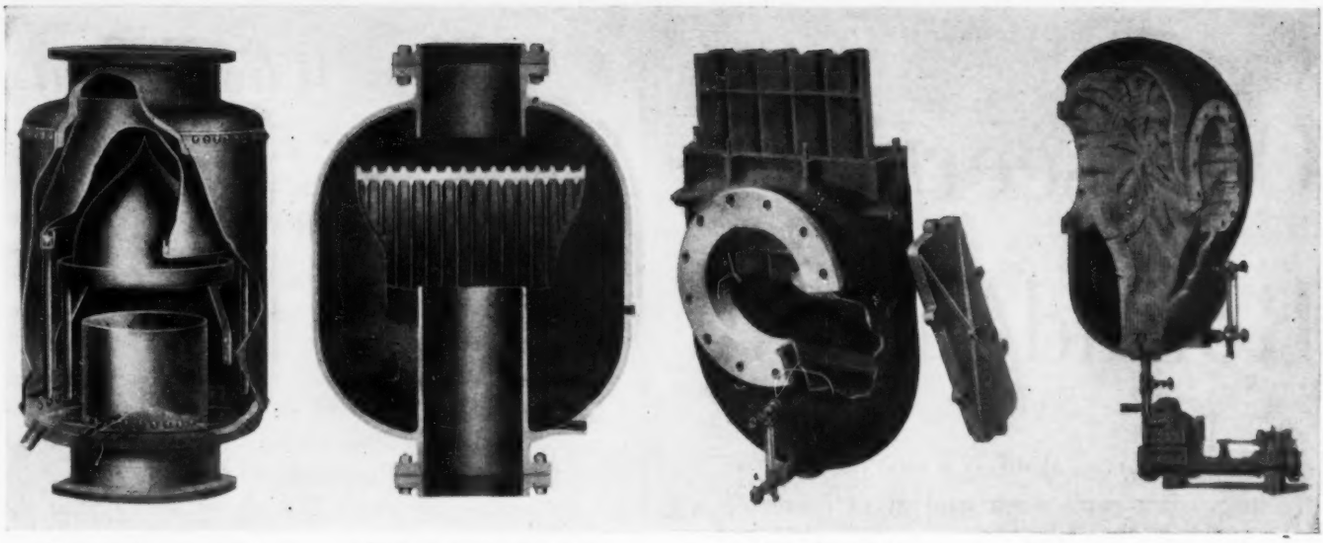
The type of engine must be given due consideration in the selection of any steam cylinder oil. In the horizontal cylinder, except where tail rods are used, the weight of the piston, rings and part of the weight of the piston rod may be borne by the lower portion of the cylinder, especially if these parts are not in proper alignment. On account of this weight the piston will frequently tend to wear the bottom of the cylinder out of round; and unless sufficient lubrication is provided, the clearance between the piston and the cylinder may become great enough to cause serious leakage of the steam past the piston. This increases the pressure to which the oil film is subjected and may weaken or entirely destroy it.

If the rings become worn and sharp on the edges they



Hagan Corp.

Samples of exhaust from a 500-hp. unaflow engine. At the left is shown oil and moisture as removed from the separator, and at the right is shown clean exhaust as it is delivered from the separator.



Descending-current Hoppes oil eliminator

Vertical-type Wright-Austin self-cleaning oil separator

Type P Elliot oil separator

Wright-Austin separator, with vacuum-pump attachment for drainage

will scrape the oil film off the surface of the cylinder walls, to increase the friction and wear. Because of these conditions the cylinder oil must have the characteristics which will provide a heavy lubricating film and must be used in sufficient quantities to maintain it. Even with the most efficient oil a certain amount of wear will take place and the rings will have to be renewed occasionally.

Tail-Rod Supports an Advantage

Engines having heavy pistons and rods are, therefore, usually provided with tail-rod supports, which, together with the crosshead, carry the weight of the former. In such engines the only pressure on the cylinder walls is that carried by the tension of the piston rings, and a thinner film of oil and a lesser quantity of lubricant are required.

Vertical cylinders, on the other hand, are comparatively simple to lubricate, as the weight of the piston, piston rod, crosshead, and connecting rod are carried by the crankpin. The only pressures on the cylinder walls are those due to the tension of the piston rings and possibly to some slight pressure from any lateral motion which the piston may have.

The rings, no matter of what design, should be accurately set, and just tight enough to prevent any abnormal steam leakage. A film of oil thick enough to prevent excessive friction between these rings and the cylinder walls, and enough oil to maintain this film, are all that are required to provide proper lubrication.

In this connection it is noteworthy to mention that those lower to medium horsepower units of the vertical type which are eminently satisfactory for average plant service, could be expected to be a decided adjunct where the minimum of cylinder lubrication is essential in the interests of oil-free exhaust steam. This would apply to stoker drives, vertical steam pumps, and engines used for driving generators and air compressors.

Function of the Oil Separator

While the oil content of exhaust steam can in part be controlled by judicious selection and application of steam cylinder oils, with prime moving machinery, wherever the presence of oil in the exhaust may be a detriment to subsequent usage of this latter, it will be advisable, as heretofore mentioned, to consider installation of an oil separator or eliminator, or a grease extractor. According to the Cochrane Corp., the oil separator serves a two-fold purpose:

"First, to render the water which is condensed from the steam or water which may be heated by direct actual contact with the steam, as in open feed-water heaters and jet condensers, suitable for boiler feeding and industrial purposes; and second, to prevent a coating of oil or grease from forming upon surfaces with which the exhaust steam may come in contact, as the interior surfaces of radiators, heating and calendering rolls, cooking kettles, surface condensers, closed heaters, etc."

Where steam-heated calenders are used, mills find it highly beneficial to install oil separators in the exhaust steam lines close to the calendering rolls, as they have a decided effect in maintaining the capacity of the machines. Without the separator, the interior of the rolls becomes coated with grease, which diminishes the transmission of heat and necessitates slowing down of the machine in order to secure proper drying of the product. The use of the separator also makes it unnecessary to increase the back pressure in order to secure higher temperature for the purpose of promoting the flow of heat. The avoidance of high back pressures naturally improves the economy of the engine.

In the design of an oil separator cognizance must be taken of the manner in which cylinder oil will be contained in the exhaust steam. It is the general theory that it will appear both in the form of an emulsion, by reason of the compound content of the original oil, and as a suspended mist. This latter can be attributed to the straight mineral proportion. As a general rule, there will be but little free oil actually in evidence unless overlubrication has been carried out to excess. Normally the appearance of the steam will be milky or slightly opalescent. In the form of condensate it can be likened to water which contains an excess of air.

With all this intimate mixture, however, it is not a difficult matter to remove practically the entire oil content from exhaust steam. Analyses have shown that this can be accomplished to the extent that the resultant steam will carry only one-half part of oil per million parts of water. Exhaust steam purified to this extent is regarded as entirely dependable for virtually any type of direct or indirect process heating work.

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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Payment by Piece-Rate

Editor, Overseers' Round-Table:

PIECE RATES SHOULD prevail wherever possible, provided care is taken that the rates are just, and that no partiality is shown. Operatives should be held responsible for the quality of their output and should not be paid for anything except first-class work. If this rule is strictly applied there will be need for no more inspection than with straight time payment.

The advantages of piece rates are many and mutual: the workers reap the full benefit of their efforts; the company can concentrate on ways and means of improving methods; the output is larger for the same unit of equipment; cost control is simplified. F.A.R.

Editor, Overseers' Round-Table:

I AGREE with Pete that the piecerate principle of payment is good, and could be used to a good advantage in a number of rooms in the mill to increase production and keep down costs.

Some mills pay a percentage for good work, grading the work A, B, and C. This, with good overseers and good inspection should maintain a good quality of work.

Mills should be careful to have rate such that the workers can make a good living wage without slighting their work, if they want to make a success of the piece rate system.

R. J. PATTERSON.

Editor, Overseers' Round-Table:

IT HAS always been a source of puzzlement to me that so many shrewd textile executives should be so thoroughly sold on the idea that when piecework comes in, quality goes out. Yet those selfsame individuals keep on buying automobiles, refrigerators, etc., which by their very dependability completely disprove this theory. Conditions of manufacture vary, of course, but the basic essentials to quality production remain the same.

Machinery is just as highly developed in the textile as in the non-textile field and the personnel as highly skilled. Remains then the question of application. Broadly speaking no wholehearted effort to establish a workable piecework or wage incentive plan for the textile industry as a whole has yet been originated. In the instances where a piecework system is in vogue, quality has been maintained—as in any industry—by rigid inspection. Bad work being penalized by non-payment, the consistently careless and inefficient workers are gradually eliminated. Where this procedure is followed, higher wages follow the rising curve of production, resulting in the building up of a more efficient and satisfied organization, capable of surpassing daywork standards of quality. ROBERT S. ALEXANDER.

What About the

"EVERY so often," said Superintendent Chase, "someone either attacks or defends the mill village. I know that most of you have worked in mills that owned a village, and in mills that did not, so perhaps you have some thoughts on the subject."

"It makes me mad," Bill started the discussion, "every time someone takes a crack at the mill village and talks about 'paternalism' and all that sort of thing. Most of the people who attack the mill village don't know what they are talking about anyway. In the first place, a lot of mills were built out in the country. This shows up more in the south at present, but it was equally true in New England in the old days. When a mill is built in the country some provision must be made for housing the workers. Isn't it much better for the mill to build houses than to depend on outside real estate concerns? Even if some outside agency builds the houses, and it is doubtful if any would want to, there is always the chance that such a concern or individuals will take advantage of the situation and charge high rents, which means discontented workers."

"Further," Bill continued, "in most every case you will find that the workers are better taken care of where the mill owns the village. The mill is so much interested in having contented workers that it will make every effort to have good living conditions, but an outside group of landlords would think only of collecting rent. I need not point out the many examples of fine mill villages. I think the system is fine and I'm all for it."

"To start off," Pete rejoined, "I'll admit that where a new mill is built out in the country it is almost imperative that the mill build houses for the workers. However, I believe that the sooner the mill can get rid of owning the houses the better it will be for all concerned. I don't think it is right that where a man loses his job he can be thrown out of the house if the company so desires. There

Watching Workers for Promotion

Editor, Overseers' Round-Table:

PETE HAS brought up a tough problem, but I believe that the operative who wants to get ahead will seek to educate himself so that he will understand his work better.

Mill Village?

are a lot of bad features in this 'paternalism' that Bill speaks of. No matter how broadminded most of the mill officials may be, with a mill village system there is always the chance of some short-sighted executives taking advantage of the fact that the mill owns the whole town to grind down the help. Further, most mills that own villages charge very low rates for rent, water, electricity, etc. This is bad because it often makes the pay envelope look small to those who don't know the whole story and such publicity doesn't help. My plan is this: Let the mills sell the houses to the workers or others as rapidly as possible; where such a plan cannot be worked, run the village on an out-an-out business basis by having a separate concern own the village and run it so that it at least breaks even considering investment, expenses, etc. Not owning the village is best, but after that I advocate divorcing the village from the mill business."

◆

Do *you* believe that the textile industry should continue the mill village system or work toward its elimination?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

If an overseer who takes an interest in his work will notice, he will find that he has a few operatives who are always asking questions about the draft, twist, etc. However, there is little the overseer can do, for he has not sufficient time to answer all the questions clearly.

The more ambitious operatives may think:

"There is no chance for anyone to get ahead here. This company doesn't care anything about us and even the overseer won't answer a few questions. I hear that there is a better chance at the —— Mill and I am going to give notice."

To remedy this a company can show its interest in the operatives by offering, once a year, textile books and subscriptions to textile magazines as prizes to those showing talent, interest and energy. Then, as a grand prize, the company should offer a scholarship to some good textile correspondence school and let the winner know that check will be kept and that he is expected to make good.

OVERHAULER, CARD ROOM.

Editor, Overseers' Round-Table:

THERE IS now, more than ever before, a growing recognition of the need for definite attention to the problem of the selection and training of leaders.

Give the operator the feeling that he is being watched and considered for promotion and you are giving him the essentials for developing initiative and fostering a spirit of loyalty. Study your men, gain their confidence, let them know you have a personal interest in them, not only for the service which they are giving you, but also for the service which you give them now and in the future. Public opinion is growing more and more against management which use labor wastefully.

A personal conference with the operator is the most effective method of assistance. Be open minded, give him suggestions, and advice, give him your experience and tell him of the experiences of others. Point out to him the value of looking into the future as far as possible, and to study each problem from every side. Such a conference will put the men with high ideals to reading everything that they can buy, beg or borrow relating to their work. They will be keeping up with the advanced ideas of the best overseers by studying their methods.

E.F.C.

Editor, Overseers' Round-Table:

IF YOU place a few nuts and a lot of dried beans in a jar and shake them, you will find that the nuts, which are larger than the beans, will invariably work their way to the top, no matter how many beans there are in the jar or what is the original position of the nuts. The famous Mr. Parlette thus illustrates that a good man cannot be kept down. While this theory is true, we are apt to forget that there must be the *shaking*, without which the nuts would remain in the bottom of the jar at least as long as orange blossoms did not grow on pine trees. The shaking provides the nuts the opportunity for making their way upward.

The good, or able man must have a *chance*. Without it the world may never hear of him. And while it is true that many a man has made his own chances and opportunities, it is also true that many a good man has gone to the grave unknown. Was it not the poet Gray who sang to "some mute inglorious Milton" and "some Cromwell, guiltless of his country's blood," buried in the country churchyard?

Let the operatives feel that they are being watched and considered for promotion. Why not? They will be spurred on to do their work faster and better and, what is more, out of the great number of operatives there may arise, because of the opportunity for advancement, some great executive who will be a blessing to the mill and perhaps to humanity.

DONATO INTERNOSCIA.

◆

Summary of Discussion on Promoting the Employee

Practically all the replies agreed that good workers should be encouraged, but when it came to the question of whether it was practical and advisable to give all workers the idea that they were being considered for promotion, there was a sharp rift. About half said that you were just kidding the help along if you tried to make all believe they were being considered, when there were actually so few chances for advancement. This group stated that the good ones would come to the top almost automatically. The other half stated that it was practical and advisable to encourage all to get ahead.

Copeland Outlines Plans for Foundation Study of Cotton Marketing

FOLLOWING the announcement by the Textile Foundation, Dec. 12, that an investigation of the marketing of cotton goods had been authorized, Dr. Melvin T. Copeland, professor of marketing, Harvard University Graduate School of Business Administration, who will direct the work, and his assistant, Professor E. P. Learned, outlined their plans to a representative of TEXTILE WORLD this week.

Primarily the object of the study is to gather facts, sort out the good features from the bad and draw certain reasoned conclusions. It is stressed, however, that more than anything else the survey will point the way for further detailed investigation along lines indicated by the conclusions. Otherwise there would be the possibility of having the first general report pursue a specific problem to the detriment of the general picture. Thus, for example, inventory control will be studied in its relation to many other factors rather than isolated and broken down into detailed methods of control.

Distribution will be covered from the gray goods mill through the finished product, gray goods mills, converters, finishers, etc., all being within the scope of the investigation, and each step will be viewed from the outsider's standpoint without preconceived ideas. In this way an impartial picture will be created showing what is being done, why the trade does it, and what, if anything, seems to be inconsistent with good business practices.

Present plans are that the "case history" method, made famous by the Harvard Business School, will not be followed to any great extent. Concerns which have done a good job will, of course, be studied and their experience will count in the conclusions, but the preparation of "case histories" requires such an amount of time that it would be virtually impossible to employ the plan where there are so many diverse units and practices to be covered. However, as work progresses it may be found that a few facts about individual concerns will help to point the general conclusions.

In sorting the good from the bad in cotton textile distribution it is hoped to find within the industry a fund of correct practices which will serve in building up what might be called a general directional chart for the industry. However, where other industries have something to offer in the line of methods these will be outlined, a place where the wide business experience of those conducting the investigation will prove of inestimable value.

Illustrative of the general trend of the study is the attitude toward statistics. Instead of setting out with the idea of finding out what statistics are needed, the first step will be to find out to what extent present statistics are used and, if not used, the reasons for the neglect. Analysis will be made of present statistics in the light of what they offer the industry and effort made to point out just where the industry is falling down in not using them. It is obvious that something is wrong if the manufacturer does not use certain statistics and his customer does. It is felt that only after the problem has been tackled in this manner should there be any attempt made to enlarge the amount of statistical data available.

The entire investigation will take in the neighborhood of a year and will actually start shortly after Jan. 1. In addition to Professors Copeland and Learned there will be one worker in the field all the time. As stated in TEXTILE WORLD, Dec. 12, Dr. Copeland has done valuable work in the textile field in the past and Professor Learned has also given the subject considerable study.

Professors Copeland and Learned smilingly admit that they do not expect that the investigation will revolutionize the industry overnight, but they do believe that the results will prove of value in shaping future policies, and they do hope, above all, that the industry will offer its hearty cooperation.

▸ Weave Combinations

(continued from page 34)

bedford-cord weaves can be combined, all of which demonstrates in a very clear manner the unlimited possibilities this system of combining weaves affords the student possessing a creative and original turn of mind.

The class of stripe and check designs which come under the description of weave combinations not having the same basic formation is practically unlimited. The same precaution must be adhered to as in other types of construction (already considered) concerning the correct joining of the different weaves employed.

At Fig. 23 a combination of four different weaves in block-check form are used. The lower left section is the "birdseye"; the lower right is the "basket"; the upper left is 4x4 diamond twill; while the upper right is the "mayo" weave used in Fig. 20. In like manner, illustrations 24 and 25 are similarly constructed. Stripe effects can be obtained by using the first eight threads of these designs for the pegging plan.

In addition to the above, construction of designs upon motif bases affords another interesting method, chiefly for large and figured effects. For instance, let Fig. 26 represent the motif, using weaves as specified below the diagram, with each mark and blank representing four ends and four picks. By filling in these weaves in accordance with the motif layout, we have the resultant design, as illustrated at Fig. 27. It will be noted that this reduces by drafting to weave on sixteen harnesses, thereby producing a very effective and large design, on the minimum number of harnesses. This can be materially increased in size by repeating, as many times as you wish, the sections bracketed.

In conclusion, it may be stated that the various examples illustrated are subject to many modifications, and in some cases improvement. Enough, however, has been explained to enable the interested reader to follow the general methods of constructions in the combination of similar or entirely different weaves.

▸ N. C. Manufacturers Consider Mutual Compensation Insurance

A group of North Carolina manufacturers meeting at High Point, N. C., decided to make a detail survey of the possibilities for successful operation of a mutual association to underwrite workmen's compensation policies instead of paying $2,800,000 in premiums to insurance companies, as has been done during the first year that the state compensation law has been in effect.

▸ "Seamloc" Carpet Is Latest in Floor Covering Line

Among floor coverings offered this season is "Seamloc" carpet, manufactured by Sanford (Me.) Mills, weavers of mohair velvets, and distributed by L. C. Chase & Co., selling agents.

The material was first introduced at the recent 1932 spring floor covering opening in the Textile building, New York. As the name suggests, the seams are locked together instead of being sewed, thus eliminating certain installation costs, and economy is afforded on inventories as a complete line of the carpet may be obtained in two widths, 36 and 54 in. The interlocking feature, made possible by a patented backing of a chemical composition, permits unlimited application.

▸ Obtaining Maximum Service From Bucket Elevators

Thinking back over more than 15 years of experience in the selection, erection, maintenance, and servicing of various types of bucket elevators, Ralph McMillan, construction superintendent of the Link-Belt Co., Chicago, makes the following recommendations for obtaining satisfactory service:

In selecting a bucket elevator for a given purpose, the specifications of the material to be handled and the quantity to be elevated during a given time should be known. If the capacity of the plant is expected to be increased in the future, this fact should be borne in mind and the original elevator provided to care for this anticipated capacity.

Sufficient room in the elevator casing is essential to long life, as ample space does away with the wear of buckets on

the casing. Pits for the elevators should always be roomy to allow quick and easy access for adjustments, cleaning of the boot, and lubrication. On centrifugal-discharge-type elevators the receiving point should be well above the foot shaft so that the major portion of the material is discharged directly into the buckets. A uniform feed is essential, because the elevator will choke and stop if overloaded. This applies to continuous bucket elevators as well. Make sure the discharge chute is of ample proportions, and placed at a suitable slant or angle, to insure immediate freeing of material, without danger of its backing up to the line of buckets.

A positive drive gives best results. Best methods of lubrication are through pressure systems and the use of take-ups, pillow blocks, etc., having ample grease or oil storage facilities. Drives running in oil- or dust-tight casings give longest service.

▸ Silk Association Revises Arbitration Rules

A revised form of arbitration procedure incorporating several changes which simplify the routine and expedite the settlement of trade disputes, was adopted Dec. 10 by the Board of Managers of the Silk Association of America, Inc. Thomas B. Hill, president of the Association, presided at the meeting.

A committee to nominate candidates for the board of managers at the annual meeting of the Association on March 23, 1932, was appointed as follows: Philip Dimond, Gilt Edge Silk Mills of New Jersey; Charles H. Dimick, National Silk Dyeing Co.; Henry Leon, Leon-Ferenbach Silk Co., Inc.; Harold Rubin, American Silk Mills, Inc.; H. F. Scudamore, Jardine, Matheson, and Company, Ltd.

The following firms were elected to membership in the Association: Bouchard and Charvet, Inc.; Cetwick Silk Mills, Inc.; Lyons Silk Works, Inc.; L. Teplitz Thrown Silk Co.; Stewart Silk Corp.

Under the new plan the filing with the Association's Arbitration Bureau of a copy of the contract with the request that proceedings be instituted will in the future be sufficient, when a party to a written contract containing an arbitration clause refuses to arbitrate. Up until recently a court order to compel arbitration was necessary. The new method of procedure is, however, consistent with a provision in the Arbitration Law of the State of New York, confirmed through a recent decision of the Court of Appeals.

▸ Collins & Aikman Film "Romance of Velvet"

"The Romance of Velvet," a motion picture film produced by the Collins & Aikman Corp., New York, has been shown to the textile students of North Carolina State College, Raleigh, N. C. The film depicts steps in the manufacture, dyeing and finishing of this type of fabric which is now used extensively for automobile upholstering. Following the showing, Thomas J. Dark and A. H. Gardner, of the New York offices of Collins & Aikman, exhibited samples.

Jack Card's Color Scheme Is Seasonally Appropriate

Editor, TEXTILE WORLD:

Digging up a Christmas thought this year is sort of hard scratching. The best I can produce is a negative one.

A year ago many of my friends warned me that 1931 would witness the beginning of the end of our present social system. They had it all figured out that the collapse would start in England—and spread quickly to the United States.

And yet England, as a nation, has followed almost reactionary lines this year.

A deep change is taking place in the world, I'll admit. But, to me, it seems that we are about ready to go ahead on a green light, rather than to be halted by a red one.

JACK CARD

▸ This Hosiery Mill Beats The Depression

Energetic and unabating promotional work along unusual lines, is credited with being responsible for the remarkable record for continued operation claimed by Baker-Moise Hosiery Mills, Dallas, Tex. This company specializes in women's full-fashioned hosiery; publicity sent out recently announces that the plant has operated on a 24-hour schedule for 18 months.

The company has a particularly active promotional department; this division prepares numerous direct mail letters and novelties, often of a humorous slant, and these are sent broadcast to the trade. The fact that the mill operates day and night is stressed in all advertising. Other sales-getting ideas used effectively by this company include: the distribution of post-cards showing photographic reproductions of Baker-Moise mills, extensive bill-board advertising, distinctively designed color cards of the firm's hosiery line, and handy folders giving prices of the firm's best-selling numbers.

▸ Thies to Open New Office in New York

The Thies Dyeing and Processing Co. of West Warwick (R. I.) will open a new office in New York, with L. A. Barling in charge.

▸ Handling Burned Cotton

An article on means of putting out fires which occur in baled raw cotton and methods of salvage, is contained in a recent issue of *Factory Mutual Record*, published by the inspection department of the Associated Factory Mutual Fire Insurance Cos., Boston, Mass. A few extracts from the article follow:

"As soon as the fire is under control, the bales should be taken into the yard and graded into three separate classes *(a) burning, smouldering, burned, and scorched* bales, *(b) unburned wet* bales, and *(c) unburned dry* bales.

"For equipment, water barrels, flat-bottom pails, and garden hose are indispensable. Garden hose with adjustable nozzles is more effective and produce less water damage than large full-pressure streams.

"To extinguish burning bales, the best method is to drive a bar or large rod in three or four directions through the spots where fire appears, and then fill the holes with water.

"The actual fire in smouldering bales is merely a glow which can seldom be seen except at night. It eats through the bale at the junction of black, charred cotton and brown, scorched stock, following the more lightly compressed section where more air is available, and forming a black trail which twists, turns, often divides, and, if not checked, eventually consumes the entire bale. Such a fire must be dug out, using a hook which can be easily made from an old spindle, and a wet wad of cotton to cool the spot being worked. The black burned stock must be all removed, put into a pail of water, later emptied into barrels, and finally piled wet, some distance from the danger zone.

"Bale ties should not be cut unless necessary, because this allows the cotton to expand and greatly increases the rate of combustion. Cutting end-ties especially allows the bale to expand, making a condition favorable to flash fires."

▸ Philadelphia Manufacturers Protest Tax Increase

Supporting the protest registered by Julius R. Bux, president of the Philadelphia Textile Manufacturers' Association against the proposed increase of 35½c. in the real estate tax in that city, several large textile mills have indicated their intention to remove their plants should the tax be adopted for 1932. The H. C. Aberle Co., Clearfield and A Sts., full-fashioned hosiery, employing 1,200 workers, in a letter to City Council, stated they would pursue such action in the event of the adoption of the increased rate. The Apex Hosiery Co., 5th and Luzerne Sts., also makers of full-fashioned hosiery, of which William Meyer, president of the National Association of Hosiery & Underwear Manufacturers, is the head, sent a letter to each individual member of the Council protesting the increase.

NEWS about MEN

Dr. Donald S. Ashbrook has been elected president of Bradford (R. I.) Dyeing Association (U. S. A.), succeeding the late **Harry E. Danner.** Dr. Ashbrook was formerly vice-president and manager of the company. **W. J. Tonjes,** former secretary, was elected to the board of directors and made secretary-treasurer, at the meeting of the board held last Monday. **Walter R. Howell** has become sales manager and a vice-president, and **J. Albert Pawson,** who has been with the company in a technical capacity since 1913, has been made plant manager and a vice-president.

A. J. L. Moritz, vice-president of the American Enka Corp., Enka, N. C., who recently returned from a trip to Holland and Germany, states that conditions in the United States are far better than on the Continent, particularly in Germany.

P. T. Cuthbert, who resigned as president of Chas. Chipman's Sons Co., Inc., New York, on May 9, after 31 years' association, is reentering the hosiery business as a selling agent at 93 Worth St., New York. He will be associated with **William A. Hartman,** also formerly with Chipman's.

Charles Whitney Dall has been elected president of F. H. Cabot & Co., New York. **Judge Frederick P. Cabot** has become chairman of the board.

A. Pleet, president of the Yorkshire Worsted Mills, Lenni Mills, Pa., and his selling agent, **Samuel Karon,** sailed on the "Orienta" Dec. 19 for Havana.

Henry D. Bailey is still very much in charge of his plant, Henry D. Bailey Mill, Inc., Hope Valley, R. I., since he is listed as president, treasurer and superintendent. A statement to the contrary appeared in a recent report in TEXTILE WORLD.

W. C. Naumann has been chosen president of the newly formed Adirondack Tinsel Mfg. Co., Hudson Falls, N. Y. Other officers elected include **K. R. Karlson,** vice-president, and **E. E. Sabourin,** treasurer.

B. M. May, vice-president of the DuPont Rayon Co., has been visiting the branch plant at Old Hickory, Tenn., spending some time in conference with local executives. Accompanying him were **Howard J. White,** general manager of all DuPont plants, and **E. K. Gladding,** general manager of the technical division.

J. Wesley Irwin, vice-president of the Little Falls (N. Y.) Mfg. Co., has been appointed to the Board of Governors of the Arkwright Club, New York, to fill the vacancy caused by the resignation of **C. B. Gallagher.**

H. B. Young, production manager of the Belding Heminway Co., has resigned, effective Jan. 1. He will be succeeded by **H. H. Fischer,** who has been with the company at Belding, Mich., for one year. **W. S. Belding,** manager of the Philadelphia branch of the company, has also resigned. He has been with the Belding interests for many years, an official of Belding Bros. before their merger with the Heminway Silk Co. He will be succeeded by **George Mutchler,** who has been his assistant for the last five years.

Joseph Silver, manager and buyer at E. A. Jackson, Inc., New York, dress manufacturers in the higher-price range, has resigned to become affiliated with the cutting-up sales activities of Cheney Bros., New York, effective Jan. 1. Announcement has been made to this effect by **Archie Rosenbaum,** manager of the cutters' sales division of the Cheney organization.

J. J. Brown, general manager of Ohio Falls Dye & Finishing Works, Louisville, Ky., **G. W. Krentler,** of Dean & Sherk Corp., Lawrenceburg, Ky., and **A. W. Lissauer,** Louisville (Ky.) Drying Machine Co., are among the new directors of the Associated Industries of Kentucky. **L. D. Browning,** of Elk Brand Shirt & Overall Co., Hopkinsville, Ky., is also a member of the board.

Kenneth G. Russell has been appointed general manager of the Standard Hosiery Mills Sales Corp., with an office at 271 Church St., New York. Mr. Russell was with Scott-Bartels Co., and the Rufus W. Scott Co., in a sales capacity, before taking over his present position. The new office will not start selling the line of the Burlington, N. C., mill until Jan. 2.

George O. Hamlin, general sales manager of the Viscose Co., New York, sailed Dec. 19 for Havana, Cuba. **E. G. Geier,** of Duplan Silk Corp., New York, was also on the boat.

E. G. Field, industrial engineer, of William H. James & Associates, Atlanta, Ga., recently discussed "Standard Costs: A Tool of Management," at the Clemson College (S. C.) Textile School. His talk was illustrated by charts and actual cases encountered in the textile industry.

Robert T. Francis, former selling agent of the Pontoosuc Woolen Mfg. Co., Pittsfield, Mass., which has gone out of business, is recovering from pneumonia.

William Zopfi, head designer at the Slater Mills, Inc., Webster, Mass., has been appointed assistant to the general manager.

K. C. Biswas, recently connected with the Naumkeag Steam Cotton Co., Salem, Mass., has joined the Pepperell Mfg. Co., Biddeford, Me., to do research work.

Patrick Hanlon, past president of the National Association of Woolen & Worsted Overseers, is doing some special work in the Burlington Mill, of the American Woolen Co., at Winooski, Vt.

M. P. Taylor has gone from Hopewell, Va., to become chief engineer of the Rome, Ga., plant of Tubize Chatillon Corp.

Louis Kribben, who was formerly with the Forstmann Woolen Co., and the Roubaix Mills, Inc., Clinton, Mass., has gone to the Annevar Dyeing & Finishing Mills, finishing plant of the Cleveland Worsted Mills Co., at Ravenna, Ohio.

Harold Mahon, who has been associated with the Judson Mills, Greenville, S. C., has resigned to become a member of the southern sales staff of Stein, Hall & Co.

Textile Calendar

Wool Blanket Manufacturers Quarterly meeting, New York, Jan. 14, 1932.

Textile Forum, N.A.C.M., for master mechanics, Chamber of Commerce Bldg., Boston, Mass., Jan. 14, 1932.

Annual Dinner, Silk Association of America, Waldorf-Astoria Hotel, New York, January 21, 1932.

U. S. Institute for Textile Research, meeting of Research Committee, Chemists' Club, New York, Jan. 21, 1932; meeting of Executive Committee and Board of Directors, Jan. 22, 1932.

Textile Forum, N.A.C.M., for overseers of warp preparation and weaving, Chamber of Commerce Bldg., Boston, Mass., Feb. 11, 1932.

Textile Forum, N.A.C.M., for overseers of dyeing, bleaching and cloth room, Chamber of Commerce Bldg., Boston, Mass., Mar. 10, 1932.

Committee D-13, American Society for Testing Materials, Spring Meeting, Providence, R. I., March 10-11, 1932.

Annual Meeting, Silk Association of America, 468 Fourth Avenue, New York, March 23, 1932.

National Association of Hosiery and Underwear Manufacturers, Annual Meeting, Commercial Museum, Philadelphia, Pa., April 14, 1932.

Knitting Arts Exhibition, 28th Annual Show, Commercial Museum, Philadelphia, April 11 to 15, 1932.

Textile Forum, N.A.C.M., General Meeting for agents and superintendents, Chamber of Commerce Bldg., Boston, Mass., April or May, 1932. (Date is to be announced later.)

Second National Cotton Week, nation-wide promotional campaign, May 16 to 21, 1932.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

Ernest N. Brooke, superintendent of the Oregon City (Ore.) Mfg. Co. until the mill was recently closed, has been made superintendent of the Washougal (Wash.) Woolen Mills and will take charge immediately. **Max Wagner,** former superintendent of the Washougal company, will become superintendent of the Eureka (Cal.) Woolen Mills, taking the place of **Frank McGhee,** who died not long ago.

Richard Bigbee, connected with the Pacific Mills, Lawrence, Mass., for 20 years, has become assistant superintendent of the printing division of the Arkwright Corp., Fall River, Mass. This position has been newly created at the Arkwright company.

William Eccles has resigned as superintendent of the Roff Knitting Co., Inc., Cohoes, N. Y.

John Banachowicz, president of the Milwaukee Local 16, American Federation of Full Fashioned Hosiery Workers, has been nominated business manager of the local. With no opposition the nomination will be confirmed at the annual election on Dec. 9. He will retain his rank as president. Mr. Banachowicz succeeds **Harold E. Steele,** who has resigned to become connected with the Juergens Silk Throwing Corp., Milwaukee.

Harold Berzon has gone to Buenos Aires. He will represent Iselin-Jefferson Co., M. C. D. Borden & Sons, Inc., Prince Lauten Corp., and Arthur Bier & Co., New York, in the Argentine, Uruguay and Paraguay markets. He expects to be gone until June.

Arthur A. Proulx and **W. P. McCarthy** have been added to the sales staff at the new Chicago office of the Utica (N. Y.) Knitting Co. Mr. Proulx has been working in the Middle West for William Iselin & Co., and Mr. McCarthy for the Ford Mfg. Co., Waterford, N. Y.

Arthur H. Arnold, who resigned from L. Salomon & Co., New York, a short time ago, has joined the sales force of Strong, Hewat & Co. again, with whom he was associated for 17 years' prior to his four years' service with L. Salomon & Co. He will cover Philadelphia, Baltimore, and part of New York City in his new capacity.

John Howarth, former superintendent of the yarn department of the Wanskuck Co., Providence, R. I., has sailed on a trip around the world.

C. Edward Swanson, formerly with Carbondale (Pa.) Mills and at one time with the Gera Mills, Passaic, N. J., has gone to the Broadalbin (N. Y.) Knitting Co., Ltd.

P. W. Brown has resigned from the American Glanzstoff Corp., New York, to be in the yarn sales office of Celanese Corp. of America, in Philadelphia.

S. R. Green is now overseer of carding at the Oconee Mills Co., Westminster, S. C., having succeeded **M. D. Sanders** who resigned.

George F. Richards has become overseer of dyeing at the Ware (Mass.) Woolen Mills. He was formerly with the Merrimack Woolen Co., Lowell, Mass.

Harry Bassett, formerly of the Wakefield (R. I.) Textile Co., Inc., has been placed in charge of weaving of the Coe Woolen Co., Worcester, Mass.

William Marsden, Jr., has been appointed overseer of dyeing at Milbank Bleachery, Lodi, N. J.

Albert L. Mabbett, Newport, Me., has accepted the position of overseer of weaving and dressing at the Rocky Forge mill of the Newichawanick Co., South Berwick, Me.

William McKinnon, who concluded his duties as overseer of dyeing at the Wuskanut Mills, Inc., Farnumsville, Mass., Dec. 2, after 21 years of service, was given a pigskin traveling bag by **James Cunningham** in behalf of the agent, superintendent and overseers.

Albert Murphy has concluded his duties as overseer of finishing at the Wuskanut Mills, Inc., Farnumsville, Mass.

Quentin O. Lord has become overseer of carding for the Johnson (Vt.) Woolen Mills, Inc.

Kenneth Slipp, a former overseer in the Sanford (Me.) Mills, has resigned. He is succeeded by **Richard Leach,** former assistant overseer.

Obituary

W. Frank Shove

W. Frank Shove, treasurer of the Pocasset Mfg. Co., Fall River, Mass., for 50 years, died Dec. 17 at his home in Fall River. Mr. Shove was well-known throughout the textile industry and during his association with it held many responsible positions. He was born in Fall River, Mass., in 1858. His first position was as bookkeeper at the Union Cotton Mfg. Co. In addition to the treasurership of the Pocasset Mfg. Co., Mr. Shove was elected treasurer of the Wampanoag Mills in 1905, which position he held for 12 years. At various times he served as treasurer of the Anawan Mills and the Metacomet Mills, both of Fall River, also of the Windham Mills, Willimantic, Conn. Mr. Shove was a former president of the National Association of Cotton Manufacturers, and the Fall River Cotton Manufacturers' Association from 1912 to 1922. He was a member of the National Industrial Conference Board during the World War, and a Mason of high standing. He is survived by his widow, a son, Ackley Shove, and a brother and sister.

W. Frank Shove

John M. Van Heusen

John M. Van Heusen, inventor of the men's webbing collar bearing his name, died last week at his home in Scarsdale, N. Y., following a brief siege of pneumonia, at the age of 62 years. He gave credit to John B. Bolton, a weaver in the Arlington Mills, Lawrence, Mass., as the man who started work on his collar idea in a practical way in 1913, although it was not put on the market until April 1921.

Frank McGee

Frank McGee, manager of the Eureka Woolen Mills, Eureka, Cal., died at his home in that city last month. He was the son of the late P. F. McGee, superintendent of the Thomas Kay Woolen Mills, Salem, Ore., for 25 years. Mr. McGee received his training with the Bishop family, now of the Pendleton (Ore.) Woolen Mills. In 1920 the Bishops with Mr. McGee and C. P. Slade, acquired the Eureka Woolen Mills, at which time Mr. McGee became vice-president and general manager.

Morris Miller

Morris Miller, 84 years of age, former president of the Great Western Knitting Co., Milwaukee, Wis., died at his home there Dec. 10. Mr. Miller went to Milwaukee 51 years ago to establish that knitting concern, which is now out of business. He retired five years ago. He is survived by his widow, three sons and a daughter.

H. L. Levi

H. L. Levi, overseer at the Modena plant of Ranlo Mfg. Co., Gastonia, N. C., died at his home there following a sudden heart attack Dec. 19. Mr. Levi was a native of Virginia and moved to Gastonia several years ago from Greenville, S. C. He is survived by his wife and two daughters.

NEWS about MILLS

Cotton

Goodyear Tire & Rubber Co., Gadsden, Ala., has authorized increased operations at the local mill, effective Jan. 4, and will run on a full six-day week with normal working force.

Shreveport, La. The complete modern plant and machinery, built and operated at one time by the **L. H. Gilmer Co. of Louisiana, Inc.,** was purchased by the **Greensboro (N. C.) Supply Co.** early in the fall, as reported at the time by TEXTILE WORLD. The machinery has not been sold to the **Lancaster (S. C.) Cotton Mills,** contrary to the report in a recent issue. All this machinery in question has not yet been disposed of.

Dwight Mfg. Co., Chicopee, Mass. **W. R. Grace & Co.,** New York, has purchased 120 looms formerly used by the Dwight company; they will be shipped to South America, as reported in the Dec. 12 issue of TEXTILE WORLD, but were not purchased by the **Grace Cotton Mill Co.,** Rutherfordton, N. C.

Berkshire Fine Spinning Associates, Inc., Fall River, Mass., have started work on a 1-story brick feeder substation, 28x52 ft., at the **King Philip Mill.** The New England Power Engineering Service Corp., Boston, Mass., has the general contract.

***Kilburn Mill,** New Bedford, Mass. Stockholders voted Dec. 17 to sell Mill No. 2 by a vote of 15,594 to 45. Mill No. 2 has 50,000 spindles.

Otis Co., Ware, Mass., is running on full time and is using practically a full force, according to a report sent out just before Christmas week. This is said to be the result of orders that will keep production going at a high level for some time.

Dwight Mfg. Co., Somersworth, N. H., has been running full time, including all the machinery, up to a recent date. The company is now operating 100% of the equipment five days a week, although mill No. 1 has been closed. Equipment in mill No. 1 is being sent to the **Alabama Mills,** Alabama City, Ala., branch of the company. The **Great Falls Bleachery & Dye Works,** a subsidiary in Somersworth, is also busy.

***Savona Mfg. Co.,** Charlotte, N. C., which went into the hands of a receiver last December, is in liquidation. H. M. McCord, New York, is in charge of the liquidation of the machinery.

Bonham (Tex.) Cotton Mills are now running over time with a full working quota. Orders on hand are sufficient to keep the plant going well into 1932, according to J. C. Saunders, manager. The company employs more than 200 workers.

Dominion Textile Co., Montreal, Que., Canada, has greatly increased its activity during the last two months and the company's mills are now operating around 90% of capacity. Seasonal demand has necessitated the starting up of some 2,000 looms which were idle prior to the spurt in business. The cotton mill at Magog, Que., is running overtime and in the tire fabric plant, greatly increased activity has been noted.

**Indicates previous mention of project.*

Wool

Packard Mills, Inc., Dudley, Mass. An addition has been completed and new machinery will be installed. The expansion will require the services of about 12 more men; it will house a new boiler, two spinning machines, a new carding machine and four additional looms.

Clinton (Mich.) Woolen Mfg. Co. has recently resumed operations, following a shut-down of about three months. Employment will be given to approximately 200 operatives. The company expects to hold to this quota until next spring.

***Greenwich Mills,** East Greenwich, R. I., have awarded the contract for structural steel for a new mill at Warwick, R. I., to the Tower Iron Works, Providence, R. I. The general contract recently was let to O. D. Purington & Co., Providence. Superstructure will proceed at once. It will be three stories, 84x90 ft., to cost about $40,000, with equipment.

***Charlottesville (Va.) Woolen Mills,** will lay foundations at once for a proposed four-story mill addition, 90x180 ft., reported to cost over $100,000, with equipment. The general contract was recently let to Allen J. Saville, Inc., Richmond, Va. Lockwood Greene Engineers, Inc., New York and Charlotte, N. C., are architects and engineers.

O'Hare & Sons, Midland, Ont., Canada, will start operations again, owing to the efforts of local business men. W. E. Preston will be head of the firm, and C. P. Grierson will be manager. Assistance in the venture has been had from T. D. Wardlaw, of T. D. Wardlaw Co., Toronto, and Herbert Parker, Toronto manufacturers' agent, and agent of Middlesex Mills, London, Ont.

Johnson Woolen Co., Ltd., Waterville, Que., Canada, is contemplating a further extension of activity to include a dye plant. The company started operations last July, the founder being F. Johnson, formerly a director of Wilford & Johnson, Ltd., Dewsbury, England. Most of the plant was brought from England and installed in the Waterville mill. The products now manufactured are meltons, naps, tweeds, coatings, etc.

Knit

Birge Co., Bristol, Conn. The liquidation of all the equipment in the plant has been placed in the hands of H. M. McCord, N. Y.

Detroit (Mich.) Knitting Mills, Inc., have leased a building on Gratiot Ave., which will be remodeled and improved for early occupancy. Donaldson & Meier, are the architects.

***Millville (N. J.) Hosiery Co.** will begin superstructure at once for the proposed new one-story mill, 107x122 ft., to cost close to $250,000, with machinery. General contract was recently let to the George Kessler Contracting Co., Philadelphia, Pa.

***Barnett Knitting Co., Inc.,** Ft. Plain, N. Y., for which Joseph H. Reaney, of St. Johnsville, was recently appointed receiver, is said to have had a net operating loss of $31,000 in less than five months. Liabilities are estimated to be about $41,000. The Barnett company was organized about six months ago by Arthur Barnett of Worcester, Mass. Much Ft. Plain and St. Johnsville money went into the project in an effort to reopen a part of the then totally inactive Bailey Knitting Mills. Sweaters and high-grade bathing suits were manufactured until about two weeks ago, when the plant abruptly shut down.

Braeburn Knitting Mills, Philadelphia, Pa., affiliated with the **Apaca Knitting Mills,** same city, have filed schedules in bankruptcy, showing liabilities of $154,770, and assets of $169,404.

Edward Ellis, Philadelphia, Pa., has leased entire fifth floor in building at 72-74 North 4th St., totaling about 4,500 sq.ft. of floor space, and will occupy the space for a new plant for the manufacture of knit goods.

Philadelphia Hosiery Mills, Inc., Philadelphia, Pa., recently organized will be represented by Herman B. Sheplan, 7312 North 21st St., Philadelphia, who has been elected treasurer. David Brickman, 656 West 162nd St., New York will be an official of the new company.

Ajax Hosiery Mills, Phoenixville, Pa., have installed a new teletype machine in their mill thereby linking themselves with the New York, Boston, and San Francisco offices. The latter two installations have not been completed yet. The various offices will later be able to communicate with one another.

***Alberta Knitting Mills,** the new branch plant of **H. L. Miller & Son,** Port Carbon, Pa., will be located at Schuylkill Haven, Pa.

George G. Guenther & Son, Reading, Pa., have filed an application for a decree of dissolution. The company,

without liabilities, is going out of business.

Harvey Knitting Co., Ltd., Woodstock, Ont., Canada, within the next three months will give employment to an additional 100 hands as a result of the decision of the company to inaugurate the manufacture of men's and boys' underwear.

Silk

Sun Ray Silks, Inc., Paterson, N. J., recently formed with a capital of $50,000, to operate a local broadsilk mill, will be represented by Samuel Raff, 5 Colt St., Paterson, an attorney. The incorporators include Samuel and Marcus Mandelbaum, both of Paterson.

L. Teplitz Thrown Silk Co., Paterson, N. J., has been organized with a capital of $100,000, to take over and succeed to company of the same name, with local mill. Louis and Irving Teplitz head the new organization.

***Champlain Spinners, Inc.,** Whitehall, N. Y., are overhauling the former property of the Champlain Silk Mills and plan to have operations under way by Jan. 1.

Cetwick Silk Mills, Inc., Asheboro, N. C., are increasing their capacity practically 50% by installing about 1,600 spindles of Stonington winders, 1,200 spindles of Model 5B doubler-twisters, and 700 spindles of Monarch twisters, all purchased from the Atwood Machine Co., Stonington, Conn. When this installation is completed Cetwick Silk Mills will have one of the largest silk throwing units in the South.

C. K. Eagle & Co., Inc., Shamokin, Pa., plan to rebuild a portion of the local mill, damaged by fire, with a loss reported at close to $20,000.

West Warwick (R. I.) Town Council, in continuing its policy of extending the privilege of tax exemption to new industries, has passed a resolution giving 10 years' exemption on the car barn formerly owned by the United Electric Railways Co., at the request of Richard Clements, of Crompton, R. I. He will engage in the manufacture of transparent silk and rayon velvet. He will use the former car barn and will install machinery immediately which he has purchased in Germany. He plans to acquire new machinery and expand operations as the business warrants it.

***Katterman & Mitchell Co.,** Laurens, S. C. Shipments of looms and equipment have arrived and actual operations on a small scale been started. W. B. Bollin, superintendent of this new branch plant, states that all machinery and equipment will be installed some time in February.

Bruck Silk Mills, Ltd., Cowansville, Que., Canada. Shareholders were informed at the annual meeting in Montreal that although November and December were normally dull months in the trade, operations for that period were 50% ahead of the same period of last year.

**Indicates previous mention of project.*

Rayon

Viscose Co., Parkersburg, W. Va. The War Department has granted a permanent right of way across the Government land at lock No. 1 in the Little Kanawha River.

Finishing

Edgewater Dyeing & Finishing Co., Philadelphia, has taken title to the one-story and two-story building at Frankford and Torresdale Avenues, which it now occupies. The property is assessed at $110,000 and is subject to mortgages of $150,000.

Miscellaneous

***American Narrow Fabrics Co.,** New Haven, Conn., recently organized with a capital of $100,000, to operate a local elastic tape and braid mill, will be headed by A. J. Hazelson, Worcester, Mass., as president; A. V. Brown, Worcester, vice-president; R. H. Clark, Derby, Conn., secretary; and A. C. Smith, Worcester, treasurer.

Georgia Tent & Awning Co., Atlanta, Ga. A charter has been granted to L. D. Callahan, with a capital stock of $2,000.

Shreveport Mattress Co., Shreveport, La., will carry out an expansion and improvement program including the erection of a one-story addition. The present unit will be remodeled.

Baltimore (Md.) Net & Twine Co., recently organized by Willis E. Jones, Baltimore Trust Building, and associates, are arranging for the early operation of a local mill. A building will be leased and machinery installed. Mr. Jones is secretary of the company.

Rose-Derry Corpn., Boston, Mass., and Derry, N. H., has leased space at Newton, Mass., and will occupy for a mattress factory, giving employment to about 50 operatives.

◆

New Books

THE STORY OF HOSIERY; written and published on behalf of May Hosiery Mills, Inc., Burlington, N. C.

This distinctively compiled volume comprising 101 pages, about half of which are illustrations, constitutes a valuable source-book on the history of hosiery. The anonymous author or authors, trace the custom of wearing hosiery from pre-Christian times to the present day, and the evolution of the stocking is described in carefully authenticated narrative. The book is replete with striking passages; most notable, perhaps, is the story of the life and struggles of William Lee, sixteenth century inventor of the first hosiery knitting machine, to whom Queen Elizabeth repeatedly refused patents for fear the machine would accentuate the unemployed problem! The story of Lee suggests that history repeats itself strikingly. The illustrations include rare old prints of primitive hosiery and hosiery knitting machines. Modestly inserted at the end of the volume are several pages descriptive of the modern May mills in North Carolina.

1931 YEAR BOOK OF THE NATIONAL ASSOCIATION OF COTTON MANUFACTURERS; The National Association of Cotton Manufacturers, 80 Federal St., Boston.

Statistics in this edition of the year book have been revised, new material has been added, and some tables which could not be brought up to date have been eliminated. Subjects covered in the statistical section of the book include production, ginnings, distribution and consumption of raw cotton; production, shipments, sales, stocks, and orders of standard fabrics; activity of cotton industry; wages in the industry; production and prices of rayon; capital, equipment, production, and wages of Japanese cotton industry; and statistical history of the American cotton industry.

The technical section has the following coverage: reference data and conversion tables; production of cotton machinery; roving, yarn, and cloth tables; humidity charts and tables; test methods and correction tables; standard specifications; contract form for staple gray goods. This volume, which is the fourteenth of the series, maintains the high standard which has made the year book a comprehensive and valuable reference book on all phases of the cotton industry.

Business Literature

Belting, Leather. J. E. Rhoads & Sons, Philadelphia, Pa. Belt-users, pocketsize handbook recently published by this company contains a great deal of worth-while information and should be of value to those interested in the subject. Care of belts, permissible horsepower, direction of rotation, vertical drive, directions for lacing, and chemical resistance are some of the subjects discussed.

Clutches, Friction. Carlyle-Johnson Machine Co., Manchester, Conn. Various friction clutches, their advantages, and illustrations of their application are included in a 26-page leaflet.

Fulling Mills. James Hunter Machine Co., North Adams, Mass. Features of the new ironclad, high-production fulling mills are described. These units are cypress lined.

Instruments. C. J. Tagliabue Mfg. Co., Brooklyn, N. Y. A 100-page general catalog places under one cover the complete line of Tag controllers, recorders, dials, thermometers, hydrometers, oil testing instruments, and moisture meters. Suitable for reference library.

Magnesium Oxide Ceramic. American Lava Corp., Chattanooga, Tenn. Illustrated catalog pictures the various products manufactured from this material. Physical properties, accuracy, and low cost are stressed.

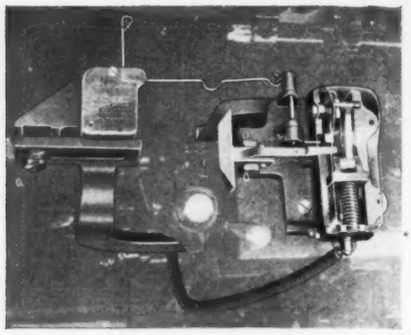
Motors, Single Phase Induction. Century Electric Co., St. Louis, Mo. Specifications, outstanding features, and advantages of the repulsion-start single-phase induction motors manufactured by this company are outlined in a 4-page leaflet.

Liquid Sampler. Galigher Co., Salt Lake City, Utah. The requirements for accurate machine sampling of various liquids are described and illustrated together with the operating advantage of these units.

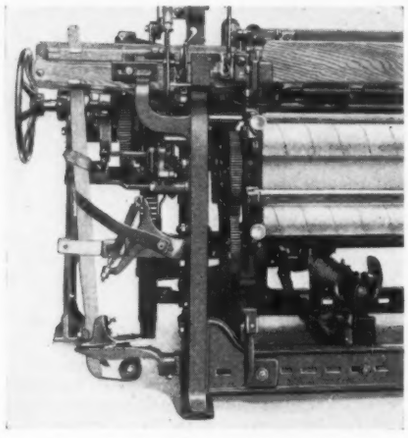
Power Generating Accessories. Babcock & Wilcox Co., New York. Three bulletins recently issued by this company have for their subject chain grate stokers, return bend economizers, and modern steam respectively.

Wood Preservation. Curtin-Howe Corp., New York City. Recent applications of C.M.A. pressure-treated lumber are described in interesting leaflet.

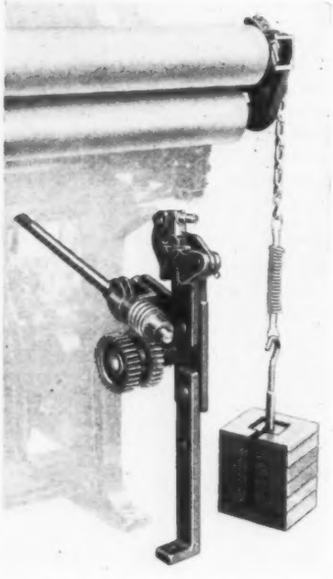
New Machinery *and* Processes



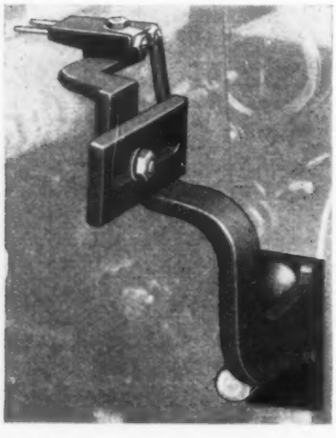
Midget feeler with four-pick knock-off



Showing double pressure rolls and spring check



Automatic let-off with automatic tension device



No. 1 spring plunger feeler

Silk Loom Attachments

ANNOUNCEMENT is made by Draper Corp., Hopedale, Mass., of the addition of a series of important improvements to their new silk loom. They are designed especially for models S-4 and S-5.

The new take-up, designated as No. 4, is built with two pressure rolls, located at the front of the loom in such a manner that the cloth is properly snubbed without excessive pressure. A spring check replaces the cam and shoe check on the plain end of the loom to reduce picker-stick breakage and provide a more gradual checking of the shuttle.

A yielding reed, fixed during the flight of the shuttle and loose at the front center, provides for irregularities of let-off. It is designed to be used without change of parts on any weight of goods.

There are two electric feelers—the Midget electric and the Modified Midget with four-pick electric knock-off. These feelers are for use on silk wound on wooden quills without tinfoil, brass, or other conductor. They slide on the empty quill, and an electric indicator stops the loom. The No. 1 spring-plunger electric feeler has two continuous helical springs as contact plungers. This feeler is used where there is a danger of cut filling, and it is further stated that the spring plungers will clear a shuttle rebound.

The No. 4 automatic let-off is equipped with a uniform, automatic tension device designed to weave out an entire warp without any manual adjustment of the warp tension. It is controlled from the front of the loom, at the take-up end, thereby simplifying the problem of making a perfect joining after pick-outs.

A new yarn-beam bearing is designed to prevent the beam from jumping, and can be adjusted to compensate for the wearing down of the yarn-beam gudgeons. The cap of this bearing is hinged upon an eccentric pin by which the cap may be adjusted forward or back in a manner quite similar to the use of the crank pin to adjust the crank arm. The cap is locked firmly in place by a hinged bolt and lock nut that make it easy to change the beam. New spring crank arms (No. 3) have alemite fittings and replaceable bronze bushings.

Pipe Insulation Support

TO correct pipe insulation disalignment and distortion and increase transmission efficiency, American District Steam Co., North Tonawanda, N. Y., has designed a new insulation support which is said to permanently hold the pipe covering concentric with the pipe.

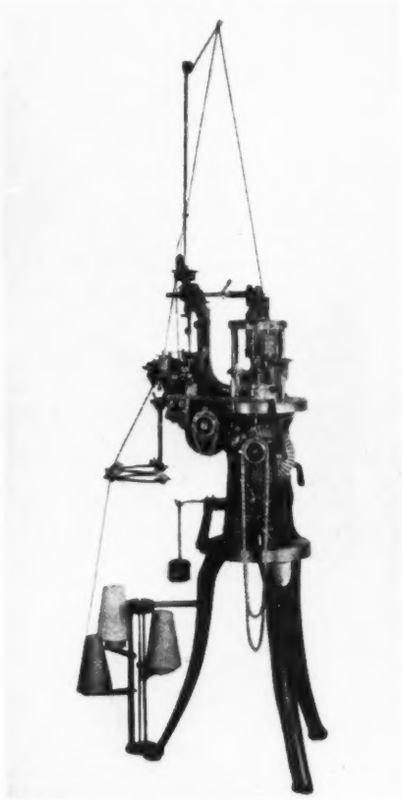
This insulation support is said to have eliminated the possibility of the insulation sagging away from the pipe

Support to prevent sagging of pipe insulation

at the bottom and becoming thin on the top. With this new support, the pipe covering is cradled in wide brass bands. Each band is hung from a saddle which passes through the insulation and rests directly on the upper surface of the pipe. This method of support keeps the insulation concentric with the pipe, and it is claimed that maximum insulating efficiency is permanently maintained. The supports are available in all standard pipe sizes up to 24 in. and for 1½-in. 2-in. and 3-in. covering.

Multi-Step Ribber

FOR producing jacquard mesh effects on a true rib fabric, Fidelity Machine Co., 3908 Frankford St., Philadelphia, Pa., has developed what is known as the multi-step Bird Eye Universal ribber. It is equipped with the four-



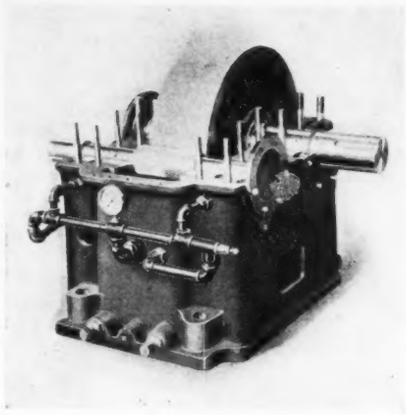
Ribber for producing jacquard mesh effects

color yarn selector and yarn changer and the picot edge, either self-colored or striped.

A design of good clearness of detail is said to be produced as a result of the multi-step patterning mechanism, permitting of 25 steps. The manufacturer stresses that the mesh effect is not to be confused with the tuck-stitch effects, but is a distinct result similar to that obtained on the full-fashioned flat units.

High-Speed Gear Units

FOR increasing or reducing speed within a ratio of ten to one, Farrel-Birmingham Co., Inc., Buffalo, New York, has developed a series of gear units designed for speeds up to 6,000 r.p.m. and power transmission from 120 hp. to 2,500 hp.



Either speed reduction or increase may be effected by new gear units

The gears employed are of the herringbone, continuous-tooth type. A complete lubricating system is provided, together with an oil cooler consisting of a coil of copper pipe placed in the bottom of the gear case.

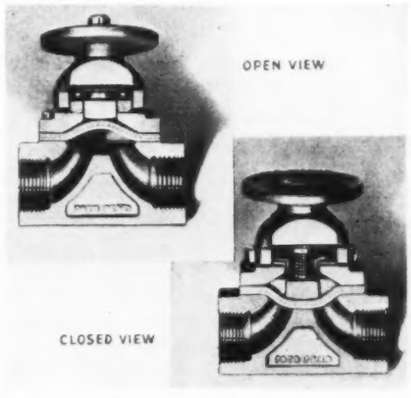
The bearings are steel or bronze shells lined with babbitt. Because of the precision employed in gear cutting, it is stated that the need for axial float has been eliminated; and thrust collars have been provided to prevent any such movement. Silence, high mechanical efficiency, and a large factor of safety are other advantages claimed by the manufacturer of this unit.

This new series of gear units is said to be especially adapted for connecting Diesel or gas engines to centrifugal pumps.

Improved Valve

MANUFACTURING and sales rights on a valve that was designed by P. K. Saunders, a mining engineer in South Africa, have been acquired by Hills-McCanna Co., 2349 Nelson St., Chicago. The value was originally intended to eliminate leaks in water and air lines that caused a large unnecessary expense each year.

The valve has no metal-to-metal seats, no stem packing or stuffing boxes, and is recommended for general purposes. The materials being handled never reach the valve bonnet. The diaphragm is said to protect all the working parts from the substances handled. This is claimed to be a big feature when handling volatile liquids, gasses, liquids having gritty solids in suspension, and corrosive liquids. Access to the bonnet or body does not require removal from the line.



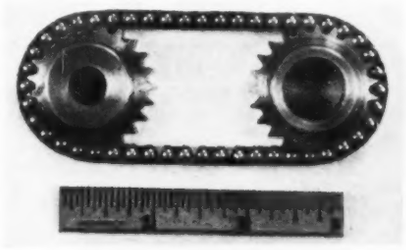
Valve which has no metal-to-metal seats

In the closed position the diaphragm is compressed between the compressor follower and the seat. An even distribution of pressure on the diaphragm is claimed to be secured through proper design and machining of the seat and compressor.

Midget Silent Chain

WHAT is said to be the world's smallest silent-chain drive is announced by Link-Belt Co., Indianapolis, Ind. It is a ⅜-in. pitch silent chain and is said to combine the desirable properties of flexibility, durability, and efficiency in the field of power transmission.

This new chain is made in three types —middle guide, side flanged, and duplex. The middle guide and side flange chains



Chain drive for fractional horsepower units

are employed where all the shafts are driven in one direction, and the duplex chain where reverse direction is desired on some shafts or where adjustment features are desired.

The use of the "X" type pin is said to assure a chain joint that will give long and efficient service. This miniature chain was brought out to meet the demand of power transmission engineers, machine designers, and machinery users for a positive, yet flexible drive for fractional horsepower motors and units.

Gasket Material

A NEW gasket material, moisture-proof and oil-resistant, has been announced for sale by General Electric Co., Schenectady, N. Y. This material, known as No. 1000 Compound, is recommended for applications where the primary purpose of the gasket is to exclude moisture.

It is described as a white, odorless, sulphur-free, rubber compound, available both in sheets and molded shapes. It is said to be tough, strong, and flexible, requires no sticker, and can be used repeatedly in testing work, as well as in permanent joints. When under compression in properly made joints it is declared to be unaffected by cold oil. In contact with hot oil it is practically unaffected where enclosed in recessed joints under compression, but it is not generally recommended where resistance to hot oil is of prime importance. Mildly alkaline solutions are said to have no effect upon it.

Questions... *and* Answers

Knitting Problems

Technical Editor:

We should appreciate any information you could give us on the following problems. We are at the present time manufacturing a heavy shaker slip-over using two ends of 2/11 woolen, and two ends of 2/20 worsted. This gives us a garment weighing 20 lb. per dozen. The percentage of woolen used is approximately 75%, and worsted 25%. We now wish to make a change, using a single end of 2/7 woolen and two ends of 2/20 worsted. What will be the difference in weight compared to the above garment, and what percentage of woolen and worsted will be used in this garment?

Would like to know the method used in solving this type of problem. Will you also tell us how to determine the size of pulley that it will be necessary for use to use on a 30 in. flat machine, which is to make 20 rounds per minute? This is to be driven by a motor running at 1,500 r.p.m., having a 4-in. pulley. Please show calculations. (7742)

Probably the most practical method of determining the percentages of yarn and weights of yarn in a given garment is to make up a sample using the desired yarns. To do this you would first note the weight of the woolen on cones or bobbins before it is put on the knitting machine. Likewise, note the weight of the worsted. Knit the garment, and again note the weights of each different kind of yarn. The difference between the first and last weighings gives you the amount of each kind of yarn used. Then weigh the finished garment. The weight of the woolen yarn used divided by the weight of the garment gives the percentage of woolen, and the weight of the worsted yarn used divided by the garment weight gives the percentage of worsted.

The following method is used to determine the percentages of woolen and worsted in your garments and also to find the difference in weight:

$$\text{Weight} = \frac{\text{Length}}{\text{No. x Std.}} \text{ (Standard Formula)}$$

Any unit of length may be taken, but 10,000 yd. is selected so that the work can be done with whole numbers. The cut standard is used, since this is evidently the basis of your wool numbers.

Worsted

$$\text{Wt.} = \frac{10{,}000}{2/2/20 \times 560} = \frac{10{,}000}{5 \times 560} = 3.575 \text{ lb.}$$

Woolen

$$\text{Wt.} = \frac{10{,}000}{2/2/11 \times 300} = \frac{10{,}000}{2.75 \times 300} = 12.12 \text{ lb.}$$

Total Weight

$$3.575 + 12.12 = 15.695 \text{ lb.}$$

Per cent Worsted

$$\frac{3.575 \times 100}{15.695} = 22.8 \text{ per cent}$$

Per cent Woolen

$$\frac{12.12 \times 100}{15.695} = \frac{77.2 \text{ per cent}}{100.0 \text{ per cent}}$$

The garment is now changed, a single end of 2/7 woolen being used in place of two ends of 2/11.

Worsted—

$$W = \frac{10{,}000}{2/2/20 \times 560} = 3.575 \text{ lb.}$$

Woolen—

$$Wt. = \frac{10{,}000}{1/2/7 \times 300} = \frac{10{,}000}{3.5 \times 300} = 9.53 \text{ lb.}$$

Total Weight—

$$3.575 + 9.53 = 13.105 \text{ lb.}$$

Per cent Worsted—

$$\frac{3.575 \times 100}{13.105} = 27.3 \text{ per cent}$$

Per cent Woolen—

$$\frac{9.53 \times 100}{13.105} = \frac{72.7 \text{ per cent}}{100.0 \text{ per cent}}$$

Weight of Garment—

$$\frac{13.105}{15.695} \times 20 = 16.7 \text{ lb.}$$

Wt. of original garment	20 lb.
Wt. of changed garment	16.7 lb.
Difference	3.3 lb.

In regard to the size of pulley necessary to run a 30-in. flat machine at a speed of 20 rounds per minute, we offer the following information:

When you say "20 rounds per minute," we assume that you mean that the thread guide travels over the beds and *back again* twenty times per minute. Unfortunately you did not indicate how many revolutions of the machine pulley were necessary in order to produce a complete traverse. This figure is usually somewhere between one and six. In any case, you should determine what this figure is by merely turning the pulley by hand and counting the revolutions that are necessary to produce one complete traverse.

The formula given below should enable you to solve your problem. This is based upon the fact that the ratio of the speed of the driven pulley to that of the driving pulley varies in indirect proportion to their respective diameters.

$$\frac{1500 \times 4}{\text{Rev. of pulley per traverse} \times 20} = \text{Diam. of pulley in inches}$$

▼

Fugitive Silk Colors

Technical Editor:

I am enclosing two silk stockings both of which are said to be from the same lot and dyed originally to the shade of the sample marked No. 1. It is stated further that the pair was washed, and that one stocking faded, as shown by No. 2—this being done in the same wash water which left No. 1 the original shade. It appears ridiculous to make such an assertion as this; and I should like to have your opinion on the matter, granting that the information given to me as to how the two stocking were washed at one time in the same water and at the same temperature is correct. I have no information to show how hot or with what kind of soap these stockings have been washed; but I feel that if they were from the same lot, they could not behave so utterly different in wash water. (7730)

An examination of these two stockings shows plainly that they were not dyed at the same time. One is a shade of beige-tan, the other a rosy lavender; and if they were originally the same color and were paired, they must have been mixed in the pairing room. It is quite possible that they have come from two separate dyeings of the same shade, one of which had been dyed with a fugitive yellow dye and the other with a much faster yellow. When the pair was washed, one stocking lost much of its color and assumed a lavender hue, while the other did not change materially in shade.

It is also not at all improbable that the customer purchased a half-dozen pairs of the same shade of hosiery, as is often done in order to have stockings to interchange when one is damaged. In this case, one stocking may have been taken from one box, and another from a second box, which had probably been dyed at another time with a different dyestuff.

We do not know whether you do your dyeing in your mill, or have it done at a commission dyehouse or by different dyers. We have in mind a case where a mill was buying the production of several other mills to supplement their output; each mill had different ways of dyeing and finishing its hosiery; after a time a customer sent back to the distributing mill a pair of stockings, one of which had washed to a different shade than its mate, much as in your case. An investigation was made by

taking a stocking from one supply, and one of the same shade from another and washing them together. It was found that one of the two had bled much more than the other, showing that the dyeings were not equally fast to washing. This matter was brought to the attention of the mill which had supplied the hosiery dyed with the fugitive dyes, and use of fast dyes was demanded.

▼

Color Change in Rayon-Cotton Stocking

Technical Editor:

I am enclosing herewith a sample stocking which shows a noticeable difference of color between the leg and foot. Recently one of our customers in the throwing business advanced the sample, stating that the cause for this defect was slack twist. I cannot agree with this and am inclined to think that yarns either of different denier or of different twist were used—by that I mean right- and left-twisted threads.

The material used in the sample is supposed to be one end of 100s cotton and one end of 75-denier rayon, twisted five turns per inch. If there is any way you can determine the thread, denier, and twist of the two different knits, I should appreciate this information.

(7740)

An examination of this sample shows that the difference comes where the leg portion is transferred to the footer. Raveling yarn from both parts shows that the twist of cotton and rayon and the twist in the single cotton yarn is in the same direction for both parts.

A series of tests on 10-in. lengths revealed the following data:

Leg	Foot
55	40
61	44
60	40
57	40
54	30
50	28
66	32
71	37
58	38
43	33
Average 5.75	3.69
T.P. I.	

This shows clearly that the yarn in the foot received much less twist than that in the leg when the cotton and rayon were twisted. This is substantiated by the fact that the rayon shows up in larger areas in the foot portion.

Going still further, it seemed that the leg yarn was finer than the foot yarn. As only a small quantity was available, only 24 yd. was reeled; but this showed the twist of cotton and rayon to be equivalent to 18.9 for the leg and 20.8 for the foot. If the rayon was 75 denier, by converting it to the equivalent 71s cotton it is found that the cotton in the leg is 25.75s, while that in the foot is 29.4s. Perhaps this assumption is erroneous, due to the fact that only a short length was available, but the yarns appear to be of different counts.

Finally, by untwisting the rayon and cotton, it is apparent that the cotton yarn in the leg has stained the rayon much more than has the cotton in the foot. Further, the cotton yarn in the leg is a different shade than that of the foot.

It is not stated whether or not this is a dip-dyed stocking. If it is ingrain, it would seem that the brown cottons are of two different lots, having been dyed in different baths and perhaps with slightly different treatment. In addition to this, different twists were used when the yarns were combined with the rayon.

If this is dip dyed, it may be that the single cottons have different numbers of twists per inch or that they are of different cotton. Either of these variations may cause a slight difference in the absorption of dyestuff.

▼

Brown Stains in Rayon Anklets

Technical Editor:

We enclose four anklets, one pair of white and one pair of orchid, showing a discoloration which we have never experienced until the last few weeks. This discoloration does not appear in the process of production, but only after the finished hosiery has stood for a period of ten days to two weeks. The yarn is ingrain and comes to us on dyed or bleached cones. The fault evidently is not in the equipment which we use, since the discoloration appears only in the tram.

We have given this hosiery the Mullen test, and these spots indicate a weakening of about 30% tensile strength. A very elementary rust test showed positive, but we cannot imagine where rust could have entered into the throwing dyeing, or production of this hosiery.

Several hundred dozen of samples have been sent out, and serious results will be experienced if this difficulty is to be encountered throughout the season. We shall appreciate your advice as to the cause and remedy of this defect.

(7733)

You state that the material has lost tensile strength and that your rust test shows positive. We agree with you that there is a positive indication of iron rust, but the amount of iron determined by our test was not sufficient to correspond to the depth of color indicated on the merchandise.

This led us to believer that the stain in the goods was caused by something other than iron. Due to the fact that the stain becomes deeper and darker after the finished goods have been in storage for a period of ten days to two weeks, it seemed probable that the stain was due to oxidized oil. Therefore we extracted the goods with ether, and obtained a small quantity of unoxidized, free, neutral oil. We then made an extraction with acetone, and this brought out a further quantity of oily substance plus some white crystals. There was not a sufficient amount of the crystals to enable us to identify them positively, but they look like salt.

An alcohol extraction removed traces of a soapy substance; and an extraction with benzol removed practically all of the stain and left the rayon a uniform color, but not white.

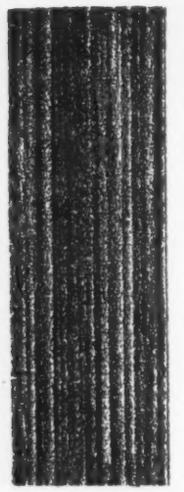
We attempted to bleach these stockings with peroxide, but it was impossible to get a good white on the sock. The orchid-colored sock became lighter, but it resisted the peroxide bleach and did not become a pure white.

Apparently the foot part of this stocking is made from a dull-luster rayon which is not the same make or grade of rayon which is to be found in the fancy top. It is our belief that the discoloration in these goods can be directly traced to the dull-luster rayon used in the foot and instep portion of the stockings. Either the scouring of these stockings previous to boarding was not uniform or severe enough to thoroughly remove all the oil from the delustered rayon, or the nature of the dull-luster rayon was such that it decomposed whatever oils and softeners were used in the goods.

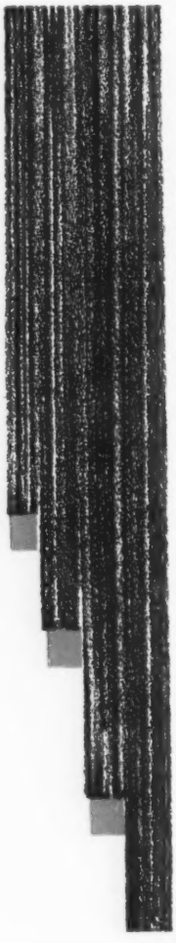
If the stain were entirely due to iron, the severe processing and acid treatment which we gave the goods would spread the iron stain throughout them; and it would affect the rayon, as well as the cotton in the top. In a great number of cases where rancidity, oxidation, and decomposition of different sorts have taken place, traces of iron are found, but the traces of iron are never very pronounced. Possibly iron in the water in which these goods were processed has hastened the oxidation and decomposition of the oil on the goods.

As far as salvaging the several hundred dozen samples that have been sent out, we believe that it would be well to have them treated with benzol, as this seems to be an effective solvent for removing the oil both in the oxidized and the unoxidized forms. We suggest that laboratory experiments be conducted by refluxing the goods in a Soxhlet extraction apparatus to determine the feasibility of this method on a large scale. If this process proves effective, you probably could have the goods extracted and reclaimed by a dry cleaner who uses benzol as a solvent.

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.



Durene



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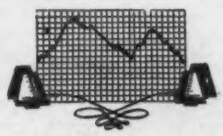
TEXTILE WORLD ANALYST

Money Uncertainty Retards Development of Basis for Recovery

By Dr. L. H. Haney

SUMMARY

The business situation is characterized by great and unnecessary uncertainties concerning the settlement of debts and the purchasing power of money. This condition retards the development of a sound basis for recovery. The textile industries are now likely to do no better than business in general.



AS WE go through the valley of the shadow of business depression, we should proceed cautiously a step at a time in order to prevent wandering and prolonging the ordeal. Confident in the knowledge that such depressions lead to recovery, we should go straight ahead until we strike the path upward. If we wander along paths which seem to turn back toward inflation, we will but delay the ultimate recovery.

As yet the deflationary process goes on without interruption. One need only look at the trend of bank deposits and bank loans to see that. Commodity prices, too, continue to recede, though more gradually. The factors affecting business which are favorable in a positive way are still so few that it would be unwise to anticipate the beginning of general business recovery for several months yet. About all that can be said on the favorable side is as follows:

Favorable Factors

1. Wheat prices still hold a part of the fall gain.

2. Some progress is being made toward relieving railways, through rate adjustments, a voluntary credit pool, and wage reductions.

3. Speculative credit has been thoroughly deflated insofar as it affects brokers' loans, and liquidation in the stock market has been probably more than 80% completed.

4. Our gold reserves are large, the Federal Reserve ratio is high, the amount of free gold is ample, and the loan-deposit ratio of the member banks is normal.

It may also be noted that machine tool orders, which are often barometric, made a moderate gain in November. Possible reports that the world producers of copper are about to reach a workable agreement looking toward "stabilizing" the industry may be regarded as favorable, and the copper market has firmed up.

It is useless to blind our eyes to the remaining unfavorable factors, for they throw light on the course which we must take in order to surmount the obstacles which lie between us and business recovery. They may be summed up as follows:

Unfavorable Factors

1. Commodity price averages continue to decline, reaching the lowest level since 1908.

2. Factory employment and payrolls fell again sharply in November to new low levels.

3. Department store sales and the sales of mail-order and chain-store concerns declined in November.

4. Our foreign trade has fallen even lower than it was in 1921.

5. The unfilled orders of U. S. Steel Corp. were off very sharply in November, despite a low volume of shipments.

6. Building activity, according to all measurements, slumped in November to new low levels, even below the bottom of 1921.

7. Sales prospects in the automobile industry continue far from bright.

8. A large amount of frozen investments and security loans still burdens the banks.

9. Growing uncertainty exists as to the value of money, which tends to paralyze business, and proposals to inject Government credit into the Federal Reserve System increases uncertainty.

10.—A large Government deficit, and doubt as to the adequacy of the Administration's steps to balance the budget, add to the uncertainty.

Three Crucial Points

The existing situation and the outlook for the future centers in three words: (1) Debt, (2) Money, (3) Opportunity.

We find nations in *debt* to one another. Our Federal Government is in debt. Our State and Municipal Governments are in debt. Our railways and industrial corporations, as well as many banks, are in the red. A large part of us as individuals confront mortgage obligations, "paper losses," and increasing difficulty in balancing declining incomes with 1929 standards of living.

Every where, we see plentiful supplies of commodities and capacity to produce everything that man wants, but at the same time we see everyone so involved in attempting to meet (or avoid) debts incurred in the past that few can buy.

As to *money*, it is the great uncertain quantity. Will the purchasing power of the dollar be maintained? That is a question that occurs to everyone who has money. Proposals to modify the regulations of the Reserve Banks as to eligibility for rediscount, are being considered. Large injections of Government credit are contemplated. One nation after another suspends gold payment and joins in the propaganda against the gold standard, while selfish silver producers and speculators join with them. As a result investors are more concerned about the safety of their principal than they are about income or appreciation. On the one hand, hoarding is encouraged, while at the same time people hardly know what to hoard.

As to *opportunity*, who can say? It may well be that in 1873 men did not recognize the opportunity presented by our western lands and the development of railways. It may well be that there are opportunities ahead which we do not see now. Candor compels one to admit, however, that the ordinary developments which have pulled us out of past depressions are singularly absent at present. The possibilities of expansion in building activity, automobile production, and the like, are hardly

---

The analysis and forecast by Dr. Lewis H. Haney, Director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

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present. Of course, free lands and railway expansion are not. Possibly crop failures in Europe or the Southern Hemisphere and large production in this country may yet benefit our wheat farmers, but our winter wheat acreage is greatly reduced and visible supplies are still large. Up to present, therefore, it seems that thorough readjustment of existing industries must be relied upon to furnish the basis for recovery.

One thing is clear and that is, it is highly important that doubts as to the value of the dollar should be at once removed. If thrifty persons and bond holders, present and prospective, could know that $100 now would mean one hundred gold dollars a year from now, 50% of the paralyzing fears which now beset us would vanish. Nothing would do more to restore confidence than to settle once and for all any question about the gold standard and the integrity of the Federal Reserve System.

Relief measures should consist of cautious, non-inflationary means for facilitating the settlement of debts. To the utmost possible extent such measures should be taken by private organizations.

The General Textile Situation

The textile industries have in a sense been unlucky. A peak of the textile cycle was reached in 1927 when general business was undergoing a period of recession. Then again, in 1931, another textile peak came during one of the worst depressions in the world's history. Textile manufacturing activity expanded between January and July this year. In some branches of the textile industries the activity was as great as that attained in 1923. Prices, however, have been weak and, since April, a sharp recession in general business, attended by declining consumer purchasing power and department store sales, has been going on. Wholesale dry goods sales slumped.

The fall business has been distinctly backward. There was some gain in wholesale dry goods, but it was less than normal. Department store sales in November were 15 per cent below a year ago and nearly down to the September low level.

It now seems, however, that although some trying times will be experienced during the next few months, the bottom of this textile cycle is likely to be reached before the end of 1931 and that the next time the textile industries expand they will have the benefit of a general expansion in business.

Cotton Mill Securities

The estimated net earnings of the average cotton manufacturer increased slightly during November. The increase was caused by a gain in the earnings margin, and reflects the decline in raw cotton prices of a few months ago. The estimated average margin actually earned, however, was still below last year. Moreover, the index of margins and that of earnings were both at a level which has usually indicated declining cotton mill stock prices. The earnings index was below the November 1930 figure, even though the volume of cotton consumed was larger.

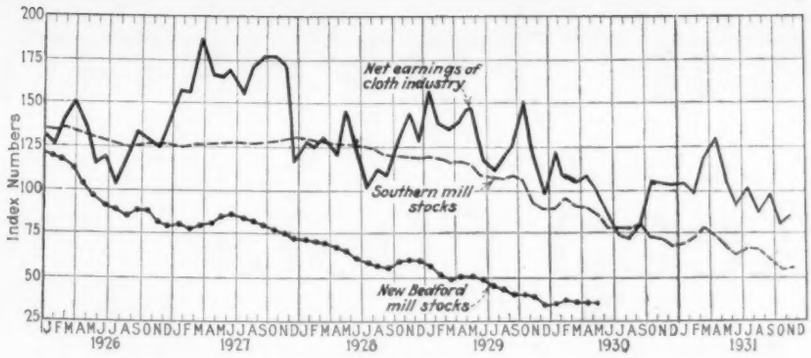
The current replacement margins of cotton manufacturers were lower again in November. Statistics covering cloth manufacturing are mixed, but no improvement in the replacement margins can be definitely forecast.

Cotton mill common stock prices rallied slightly during November, but fell off again as the general market declined. The weakness in the bond and stock markets, together with a poor earnings condition in the cotton industry, points to lower prices for cotton mill stocks.

Wool Mill Stocks at New Low

Contrary to the usual seasonal trend, the estimated net earnings of wool manufacturers declined sharply in October. A lower earnings margin was responsible in part for the decline, but the lower volume of activity as a result of the strike at Lawrence was the predominating cause. October earnings were probably not far above those of a year ago.

The current replacement margin of the average wool manufacturer fell to a new low in October. The decline in manufacturing production during the last few months has not been sufficient to check the downtrend in manufacturers' replacement margins. Not until this margin improves are wool mill stock prices likely to advance.


Net earnings of cloth industry
Southern mill stocks
New Bedford mill stocks
Index Numbers
200
175
150
125
100
75
50
25
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1926
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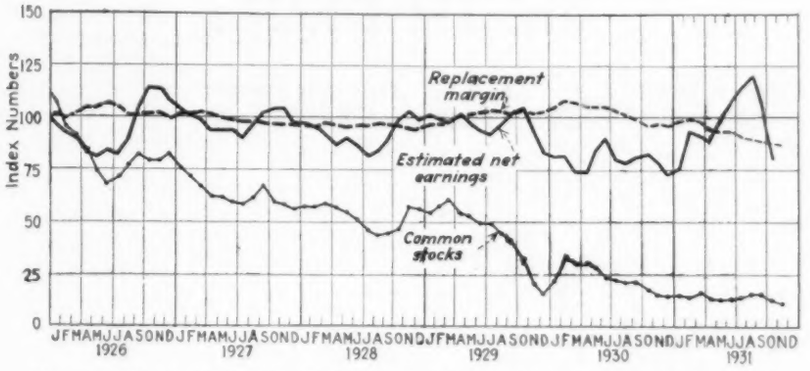
1930
1931

Fig. 1. COTTON MILL EARNINGS AND SECURITY PRICES—Net Earnings in Cotton Cloth Industry—Computed from the cost of raw material, labor, fuel, etc., the price of finished goods and the volume of production (New York University, Bureau of Business Research). New Bedford Mill Stocks—Average price 25 New Bedford cotton mill stocks (New Bedford Standard). Southern Mill Stocks—Average price 25 Southern cotton mill stocks (R. S. Dickson & Co.).


Replacement margin
Estimated net earnings
Common stocks
Index Numbers
150
125
100
75
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J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1926
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1928
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Fig. 2. WOOL MANUFACTURING EARNINGS AND WOOL MILL COMMON STOCKS—Net earnings in Wool and Cloth Industry—Computed from the estimated cost of raw material, labor, fuel, etc., the price of finished goods, and the volume of production (New York University, Bureau of Business Research). Replacement Margin—Computed from the cost of raw material and finished goods (New York University). Common stocks—Average of a representative group of common stocks. Average 1923-1928 = 100 for all indexes.

Market Briefs

Cotton: *Seesaw market with tendency toward recovery.*
Cotton Yarns: *Inactive; neither buyers nor sellers pressing for business.*
Cotton Goods: *Hoping to achieve stability; trading dull.*
Wool: *Business slow; fine wools steady, medium are firm to strong.*
Worsted Yarns: *Buyers neglect market; new year outlook fair.*
Woolen Goods: *Fair demand. Outlook improves.*
Silk: *Soft tone weakens prices.*
Slik Yarns: *Thrown and spun yarns both quiet.*
Silk Goods: *Quiet January, active February, forecast.*
Rayon: *Yarn demand shows spurt.*
Knit Goods: *Men's hosiery trading up and full-fashioned grows popular; swimsuit price weakness hits sales; rayon underwear leads as gift proposition.*

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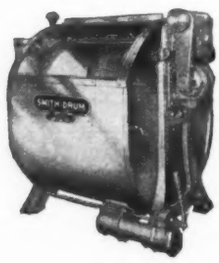

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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarns Find Little Demand

THERE has been little opportunity for any change in the cotton yarn situation during the week. At this time of the year there is usually an almost complete absence of volume demand. Dealers are consequently not looking for anything to develop between now and the end of the year. They appreciate the desire of yarn users to reduce their stocks to a minimum and they are not anxious to push sales at this time, as they also are interested in establishing favorable conditions for the annual statements. Already many lines of credit have been reduced, it is said, and the bearing of these reports on credits for 1932 is important.

There has been a continuance of the satisfactory delivery conditions previously reported. Dealers say the calls for yarns against contracts have been exceptionally good and well ahead of last December with many dealers. The needs manifested for yarns in these specifications seem to show that manufacturers have been working very close to their supplies of yarns. Conditions seem ripe for yarn business in volume if any movement of goods develops after Jan. 1. Frequent reports are heard of retailers' depleted stocks. This shortage of goods is regarded as another encouraging feature for better business in the new year.

There has been too small a movement of yarns in the way of new business to indicate any real change in prices. With the recent bulge in cotton, certain spinners tried to secure a ½c. advance in yarn prices. However, there was little or no support given to this effort. Therefore, yarn prices remain about where they were. While 20s-2 warps are said to be offered in certain quarters at 15c., average spinners ask 15½ to 16c. for this count; for 30s-2 warps, 19 to 19½c. appears to be the average range asked. Other counts are in about the same relative position, with yarn prices still practically on a nominal basis.

Carded knitting yarns are about in the same position, with little new business reported. There has been some little tendency to delay deliveries on heavy weight underwear yarns, but this situation is not regarded as serious. A number of mills are reported operating on a reduced schedule, with a few closed down for the two weeks from Dec. 19 to Jan. 4. Average prices on a basis of 10s frame spun, run from 13 to 13½c., although several houses say they are not sure they could place any great volume of business on the lower figure.

Combed yarns present an unchanged appearance with little or no demand, so that prices have little opportunity to reach an established basis. Therefore, practically the same range is noted with 10s single 19 to 19½c., 16s at 20½c. to 21c. Mercerized yarns also are quiet as far as usual outlets go. Specialties, such as novelty lines of underwear and hosiery, are occupying the attention of more than one manufacturer with prospects for good business. Export business is apparently shut off for the present in any volume because of adverse rates of exchange which make it difficult for American mercerizers to compete in such markets as Canada or England.

◆Cotton Pre-Holiday Quiet and Steady

THE cotton market has been comparatively quiet as usual during the holiday week with prices holding fairly steady on covering and trade buying. According to some reports, spots have been offered a little more freely in the South, but have been absorbed by the demand to fill out end-December commitments, and the final liquidation in December with the preliminary liquidation in July incident to the first January notices of Thursday has been largely in the way of switching from near to late deliveries. This has been without any material change in differences between months, and, on the whole, the market has shown rather an encouraging steadiness in view of unsettled outside conditions.

The report of the Census Bureau on ginnings prior to Dec. 13 was about in line with expectations. It showed an outturn to that date of 15,358,000 bales compared with 13,359,000 last year. It may be recalled the Government in its December report, placing the crop at 16,918,000 equivalent 500 lb. bales, said that the crop in running bales would be about 400,000 bales less. Based on a running bale crop of 16,500,000 bales, there were about 93.1% ginned prior to Dec. 13, compared with 92.6% the average for the preceding seven years. The ginnings figures, accordingly, seemed quite in line with prevailing ideas of the crop, particularly as the comparatively small outturn for the period Dec. 1 to 13 was attributed to unfavorable weather.

It is a question whether the small volume of business has been entirely due to the usual pre-holiday lull in trading, or whether it has not also reflected a disposition to await further developments in the three directions of greatest uncertainty. These are: first, the southern spot situation; second, general business conditions; third, the development of legislative policies in Congress. While there may have been

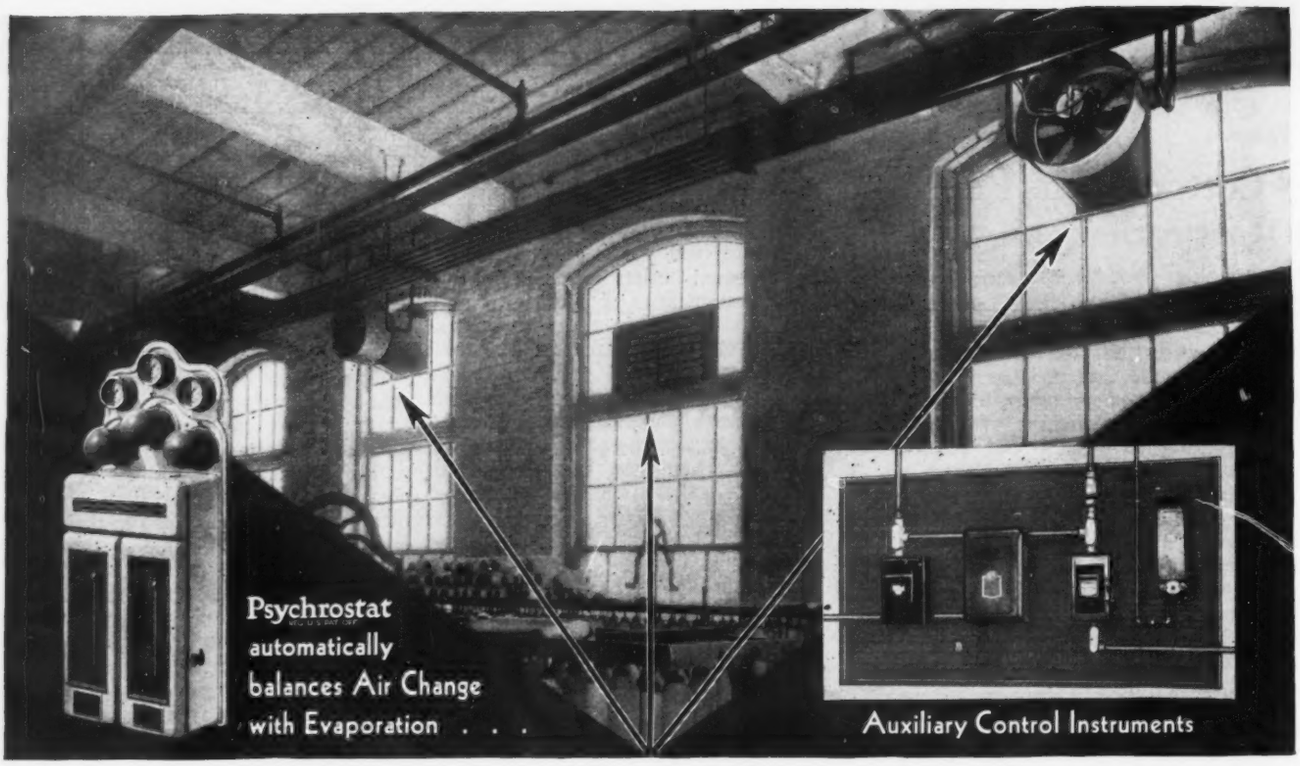
(Continued on page 64)

◆Worsted Yarns Still Await Developments

THE closing weeks of December have little to add to the story of the worsted yarn market. Requirements of manufacturers have been so light of late that there has been little need for them to make any additional purchases of yarns. There is also a very keen desire to keep stocks at inventory as low as possible in order that every favorable factor may be emphasized in their year-end statements. If some of the quotations named for finished goods and yarns during the last few months is to be considered a criterion, there are likely to be quite a few manufacturers and spinners facing ink that will not be black. From the policies followed by some members of the trade, one experienced dealer was inclined to think that these statements should use green ink, but the totals can hardly escape appearing in red.

One encouraging feature is the continued firmness shown in the wool market. Dealers are holding closely to their quoted prices and spinners who have endeavored to pick up additional stocks at an advantageous price say their offers are rejected firmly. The wool trade regards wools as good property and holders are not interested in sacrificing what they are confident will eventually prove a good price. Despite this raw material strength, yarn prices are still showing some little variation. Lack of volume business gives prices no chance to reach an established basis. Quotations, however, from leading spinners show no change worth mentioning. An offer made to one spinner for a fair sized lot of knitting yarn for prompt delivery at 2½c. under the quoted price was turned down as the spinner is one of those who refuses to operate at a loss.

Orders for bathing suits as a result of the showing of samples on the road are reported to be coming in slowly, although they are regarded as rather satisfactory by some factors for this time of the year. Several knitters, therefore, are preparing to specify their yarns for deliveries to begin after Jan. 1. This market has experienced further cuts in prices for finished goods, which may confuse the situation rather than help development of business. The outlook for other lines of outerwear and sweaters for spring is regarded as encouraging. Sampling has been done in such volume as to indicate a serious effort to secure business. With a single 18s, 52s, quoted at 92½c., some knitters are trying to buy this yarn at around 85c., and as they are insisting upon delivery of a good 50s grade, many spinners declare they are not able to meet such a quotation and give the grade of yarn wanted. For that reason it seems



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ADEQUATE HUMIDITY — ACCURATELY CONTROLLED

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

that some revision of buyer's ideas of yarn prices must be made, if they hope to maintain their grades. At the present time there is very little buying reported.

In men's wear lines, there are still reports of a better tone prevailing under the surface. The trade is more optimistic of being able to do business on a satisfactory price basis due to a change in the attitude of certain buyers. As one cloth man expressed it, where he formerly had an offer of 95c. for a $1 article, now buyers were willing to offer 99c., and this he felt was a distinct encouragement. Weavers are planning to operate on a more conservative basis.

◆Inventory-Taking Restricts Wool

THE situation in wools is considered seasonally quiet. The usual inventory operations are holding down demand for the raw material. General price level is steady on fine wools and firm to strong on medium wools. Business shows further contraction, particularly in original bag wools, graded fine territories and Texas 12-months. Delaine is completely stagnant. The sluggish movement in fine wools, is, however, offset in part by the brisker interest in medium grades, the quarter-blood showing fair activity. That medium wools will give a good account of themselves at the turn of the year may be expected with some degree of certainty, but in the case of fine wools the price situation will be more sensitive to conditions abroad.

The bulk of the unsold wool is in very strong hands, and as available stocks are smaller than a year ago at this time, despite of a record clip, there seems little likelihood of the market turning in the mill buyer's favor with the new clip still several months away. The national cooperative, which is the largest holder of unsold wool, is quoting prices slightly above the market average and shows little hesitation in turning down bids. Prices show little change from the first of the month.

Fleece wools have had another quiet week. Delaine continues inactive, even three-eighths blood demand has become restricted. A few small sales have been made at 23½ to 24c. for choice wool. Texas wools are moving less freely with the edge off the price of the 12-months, but the situation as a whole is considered promising. More confidence has been established in the short wool position. A quiet steady market has been seen in pulled wools in all grades with the bulk of the restricted business placed in medium grades both scoured and in the grease. Prices are firmly maintained on a dovetailed range of values from 38c. for C super to 63c. for choice AA.

◆Wool Substitutes Slow But Firm

THE reworked industry is in a poor way, but expenses have been cut to the bone, salaries and wages put on a lower basis, obsolete machinery scrapped and the course of business in 1932 is expected to do something to offset the distressing situation experienced throughout the whole of this year. Manufacturers have been sampling recently small quantities of quite a variety of rags, but paying such low prices that it is doubtful whether sizeable quantities of rags could be obtained on the same low price level.

Prices on the best rags are so low that if the trade were better placed financially there would be a larger placing to stock of rags like fine light merino and light hoods. Business coming in from the mills is for small amounts for immediate shipment.

Business in wool waste has been a little better and the moderate demand has covered almost all classes of materials. Prices are firming up on the best wastes.

Noil prices are holding steady, but dealers are subjected to pressure for concessions, even on the small lots required by the mills. The difference between the buyer and the seller is sometimes 5c. per pound. There seems no possibility of any consumer taking choice fine out of the market at this time at 30c.

◆Rayon Crepe Yarns In Spirited Demand

THE week before Christmas brought increased demand for rayon yarn from weavers of rayon flat crepes, and this together with the fairly active call in the preceding weeks gave December decided priority over November in volume. Producers estimated this week that December may total 50% more sales than November, if there is even a moderate demand during the closing days of the month. There is little interest evident among knitters, and this market probably will not begin to resume buying until after the holidays.

The call from flat crepe manufacturers is the result of increased demand for these fabrics which in turn caused mills to step-up their production. The bulk of the demand was for 100 denier yarns, though there has also been active movement of the 40 and 60 filament 150s.

The predominance of weavers among buyers gives emphasis to the dull-luster yarns, the biggest share of current orders being for that range. Producers of rayon approach 1932 with moderate satisfaction and much confidence in the coming year.

◆Thrown and Spun Silk Both Quiet

CHRISTMAS brought little merriment to the silk throwsters. With buying poor for many weeks, the raw silk break practically eliminated such business as has been drifting in. Crepe yarns have not moved for some time, and the call for organzines shrank to nominal last week. Prices declined in sympathy with the primary market and quotations were so uncertain that buyers found a good excuse to further cut their purchases.

Spun silk also reacted unfavorably to the raw silk decline, as the new prices of reeled silk bring it closer to the spun silk levels. Spun yarn prices have not wavered as yet, but it is difficult to say what may happen if the primary market does not rally quickly. Spun yarn stocks are light, and spinners are strictly following their curtailment policy; this lack of stock has held prices steady and will help the market during the uncertain opening weeks of the year.

◆Raw Silk Weak; 13/15 Prices Decline

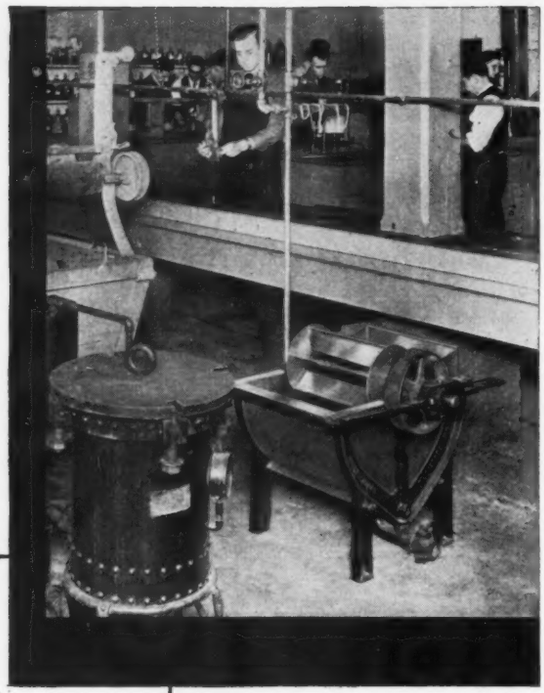
RAW silk continues very hesitant, and there is little prospect of any strengthening of the market until after the holidays. It was not expected that Christmas week would bring improvement; importers are resigned to two weeks of lull which may prove even more pronounced than usual for this period. Many influences contribute to slack buying at this time: the inventory season is on, and manufacturers are anxious to enter the new year with the minimum of stocks; the yen is not yet sufficiently stabilized following Japan's dropping of the gold standard, to encourage any buying even if American industry was so disposed.

Raw silk prices this week reflected the prevailing softness. Crack double extra, 78% of the white 13/15s, one of the key numbers of the Raw Silk Exchange quotations, weakened 10c. in part of the market, selling at $1.95 to $2.00, mostly at the latter figure. Most of the other 13/15s fell 5c. and a few were 10c. below last week.

Broadsilk mills show little more than speculative interest, and even speculative buying declined. There were occasional spurts of buying but the general feeling was one of listlessness, manufacturers showing a determination to defer coverage until after the holidays. Importers pin their hopes on a better tone in January. The reported decision of the new Japanese government to keep the surplus stocks in warehouse has helped toward making confidence for the January outlook.

PROVED!

Monel Metal "entirely satisfactory" for textile laboratory equipment



View at dyehouse at Clemson College, showing all Monel Metal paddle dyeing machine.

CHAS. E. MULLIN, D.Sc., M.Sc., F.A.I.C., F.T.I.
CONSULTING CHEMIST
PROFESSOR OF CHEMISTRY, RAYON AND DYEING
HEAD DIVISION TEXTILE CHEMISTRY
CLEMSON COLLEGE, SOUTH CAROLINA

January 6, 1931.

International Nickel Company,
67 Wall Street,
New York City, N. Y.

Dear Sirs:

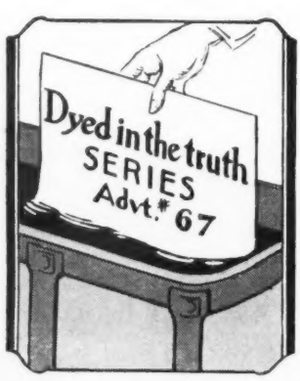
In reply to your recent letter, I will say that we have considerable Monel Metal apparatus in use in our textile chemistry and dyeing laboratory. Among other things, we have several dye tubs lined with Monel Metal and heated with Monel Metal coils, both the open and closed type. We have some constant temperature water baths, for use in dyeing experiments, which have Monel Metal tops; a Monel Metal, paddle type hosiery dyeing machine, and a number of small vessels, such as pans, buckets, etc., for use in dyeing smaller lots.

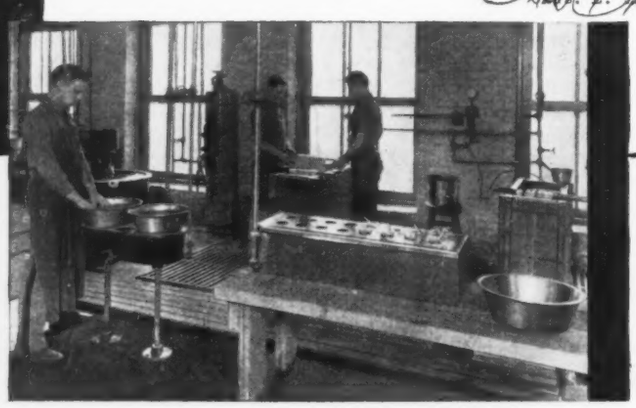
All of this material has been in use for some time and a part of it for some years. We have found it entirely satisfactory for every purpose for which it is intended. In fact it has given me considerable pleasure to recommend Monel apparatus to a number of concerns who are dyeing their own rayon and similar yarns in the old fashioned wooden apparatus. I have repeatedly told these people that they are paying for good apparatus, even though they do not have it, in the amount of yarn which they are spoiling by the present methods of handling. I am sure that this is true.

In spite of the fact that we have students handling this apparatus at all times, and that these students have not previously handled Monel Metal, we have not in any case had any difficulty in any way whatsoever with it. It is indeed a pleasure for me to give you the benefit of my experience along these lines.

Very truly yours,

Chas. E. Mullin





Students at work in dyehouse of Clemson College, South Carolina. Note the Monel Metal lined skein vats, Monel Metal dye sticks, Monel Metal pans, pails, and dippers and Monel Metal water bath for sample dyeing.

INCO MONEL METAL

Monel Metal is a registered trade mark applied to a technically controlled nickel-copper alloy of high nickel content. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

MONEL METAL

THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.

FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Curtailment Brings Confidence to Cottons

GENERAL acceptance of the holiday curtailment among gray goods mills in the South has considerably encouraged the market. Absence of the yardage which might have been produced in this period, may balance the overproduction of November and give the market a firmer foundation on which to stand. The effect on buyers of the fact that things have not been getting appreciably worse during the last two or three weeks is worth study. They seem to be considerably more confident and are more freely considering the purchase of deliveries in the first quarter of 1932. If the early weeks of the new year go along without depressing incident there will be a basis for expecting real improvement.

Buyers have recognized the effort which mill men are making to effect a degree of stability and they are cooperating in a way which would be unusual for them in any other than a period of emergency. The outcome remains largely in the hands of mill executives who can by their conservatism in putting goods into the works prevent the flooding of the market. It is clearly desirable to make no more goods than can be sold. The outcome over a period of time is not yet defined and the second month of the cooperative curtailment, when there will be no such obvious handle as the Christmas holidays on which to hang the curtailment, will be the critical month of the movement. It is up to mill men to support the evident willingness of buyers to go out of their way to improve market conditions.

Although the holiday trade has been disappointing to retailers so far as total volume is concerned it is believed that an unusual share of this business has gone to merchandise made of cotton materials. With the desire to give practical gifts or to buy something for the household which would have to be bought in the natural course of events, Christmas givers have taken a fair amount of domestic materials from the shelves of retailers.

Although the print cloth and sheeting markets have been rather dull this week, there are reported to be individual mills which have accumulated orders enough to run them for the first three months of 1932. This is not a general condition. Since a number of lines of gray goods have been withdrawn from the market, there is evidence of hope in mill circles that conditions will be better rather than worse in the weeks to come.

One leading house reports that there has been noteworthy increase in inquiry from Manila for sheetings, drills and colored goods. This is thought to be due to an extension of the boycott of Japanese goods in sections outside of China but where there are a large number of Chinese merchants. This condition applies not only to the Philippines but to Java.

The outlook for cotton dress goods in the first half of the new year is improving. Dress manufacturers generally are limited in the price they feel that they can pay for fabrics to go into their output, and as many of them feel that they can get the best effects for the least money by using cotton goods, their interest in this market is rising proportionately. It is said by one authority that about 70% of the business in wool and silk piece goods for dress manufacture will be done in fabrics priced from the mill at about $1 per yard. Many excellent fabrics of cotton can be had for considerably less than this, and, with style trends behind them, garment makers will be even more likely to push cottons this season.

◆Active Spring Seen For Canton Crepes

IN scanning the January horizon as regards prospects for the broadsilk industry certain indications loom up more or less strongly. New York factors look for a very quiet opening and a slight pick-up toward the third week, but the month as a whole is not expected to bring any rush of buying. Backward movement of ready-to-wear will delay the spring fabric season, especially prints, suggesting the possibility of rather spirited movement about the middle of February. Canton crepes are expected to be important when the season develops; even now with sales down to holiday level, there is a fair call for these lines. The last ten days also has seen moderate movement of rayon flat crepes, which lines should register a good activity in late January, due to the price inducement.

Trend toward rough weaves grows stronger daily; there is decided interest in basket effects and nets, and in the silk-and-wool fabrics, as well as the all-silk numbers the design of which simulates a silk-and-wool mixture.

The market looks to spring with some uncertainty as regards volume. There is more caution than usual in producing for stock which should help to hold prices steady. Cutters are complaining of difficulty in getting quick shipment of desired fabrics—always a sure sign that stocks in mills are decreasing. Mills are divided on outlook for prints; the general feeling is one of hesitancy, but certain leading firms are so cautious regarding these lines that those specializing in quality prints may enjoy better sales than usual. There has been no reaction as yet to the drop in raw silk and the broadsilk market may not feel this decline, if the primary market has an early recovery.

◆Spring Wool Goods Activity Delayed

CERTAIN of the worsted mills enjoyed steady movement of spot goods during the first half of December, but the holiday period found the whole market quiet. The earlier activity was about 80% fall buying, and a very meager quantity of spring business has been placed in any division. Indications are the spring season will be unprecedentedly late; some mill factors expect real buying to develop about Feb. 1, and argue that the new lines should not open before June or July, in order to give the spring season a real chance.

Prices of worsteds are slightly better than at the opening of the month. In the recent spot sales of fall lines, price was stressed and mills admitted making considerable concession to effect turnover, though they insisted the situation was better than last month. They say worsted fabric cutters are beginning to show some real desire for goods, and they look for further spot movement after the holidays. The trend is to plain fabrics and most of the fancies selling are in the price class. Stocks generally are moderate, but there is a surplus of three-eights reported.

Worsted cutters are paying more attention to quality, though they still refuse to pay prices asked at that end. They look for quality goods at $1.50 downward. Women's wear fabrics have quieted and overcoatings are sluggish, and there is little prospect of much improvement in either of these divisions before January.

▸Eagle Shows Spring Prints

C. K. Eagle & Co., silk manufacturers, New York, have opened their print line for the season of spring 1932. The line is styled for four price groups from $3.75 up. The first is a collection of slightly spaced designs developed in color contrasts of one to five shades. Group two are small neat all-overs in monotone and contrast effects of geometric and impressionistic florals. The third group is comprised of new vertical and diagonal stripes, medium sized plaids and twin colored geometrics.

A fourth group is styled to include medium and large designs in soft color combinations for supper and formal wear. The last series are small tie silk patterns, with backgrounds colored to match leading plain fabric colors, for the new interpretation of plain and print combination dresses.

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Swimsuit Call Leans To One-Piece Models

BATHING-SUIT outlook for the coming season is mixed. Stores are writing considerable of last season's merchandise into inventory which accounts for some of the hesitancy in buying the 1932 lines. Sales for the new season are decidedly backward, but part of this is regarded as a natural reaction to general conditions. It would be imprudent for mills to produce on last year's scale, as spring movement may not pick up fast enough to make up for poor business of the last two months.

Price conditions are not too satisfactory; there has been considerable cutting during recent weeks. Leading manufacturers claim this has not brought much buyer resistance to their opening levels as yet, but some pressure on price may develop next month. Heavy production by mills would accentuate a price weakening.

Current swimsuit demand leans strongly to one-piece suits and this trend may be very marked later. The preference for white is growing in both men's and women's suits. Mills which included white this year for the first time, note active demand for this line and are considering extension of white to a more varied range of models. Other colors in favor are blue and, of course, there is the usual interest in black and navy. Swimsuit trend is to conservative designs even in women's models, with much interest in stripes. The suspender suit for men is selling well.

This is an in-between season in sweaters. Some spot business on heavyweights was placed last week, but mills regard the season as approaching its end. Prices of heavyweights are steady. Medium and lightweight sweaters are in good fair demand and the market hopes for some real pick-up after the holidays.

◆Rayon Underwear Active Gift Line

PRE-CHRISTMAS demand for underwear stressed rayon lines, and some mills did a fairly good gift business. One important firm wrote its biggest two weeks' volume of the fall season during the first weeks of December and much of the merchandise was rayon. Women's rayon underwear was decidedly more active than men's. Cotton lightweights for men moved hesitantly in the last ten days and little improvement at that end is expected until after the holidays.

Retailers have little stock in hand and mills hope for some active buying in January. Stocks in mills are moderate to low and this applies to both winter and summer weights; indeed the low stock condition is the happiest aspect of the current outlook. It has helped to hold prices steady and, provided mills continue this policy of curtailment, should make for fairly firm levels in the first quarter of 1932.

Mills are not enthusiastic about January prospects, as distributors talk hesitantly about their own expectations. Heavyweights still show some activity but the bulk of the season's business—and the total is small—has already been placed. Retailers have so little ribbed merchandise in stock that considerable last-minute buying might develop in January, provided the weather turned cold during the holidays.

◆Half-Hose Call Shows Trade-Up Trend

REVIEWING hosiery trends of recent weeks one of the interesting developments is the strong call for the better grades of men's half-hose. Mills specializing in numbers retailing at 50c. and $1.00 have enjoyed comparatively healthy business and they look to continued movement of these lines in January; the 75c. range is quiet, and knitters regard it as a poor number for the coming season. There is a tendency to men's staples, but this is less emphatic than some reports would have us believe.

The particular point is that full-fashioning is increasing in importance among novelties; much of the demand for $1.00 half-hose leans to full-fashioned fancies. Stocks of quality merchandise have been light this fall, due to the overwhelming tendency to produce low-price lines, and this has helped to strengthen prices in upper brackets. Low-priced half-hose have been sadly weak and persistently competitive during the year, with little profit in any of these lines.

The two weeks just prior to Christmas brought some movement of women's hosiery, both staples and mesh lines; mesh grows more important each day and several mills are oversold on their lines retailing at $1.50 and $1.95. The low-priced mesh seems to be passing out of the picture, that field being dominated by the staple full-fashioned. Reports indicate that the mesh numbers between $1.35 and $2.00 are the most promising for spring.

Mesh hosiery preference leans to large designs, and mills complain of difficulty in selling the needlepoint patterns; it is estimated that the call is 10 to one in favor of larger mesh patterns, even in the numbers selling close to $2.00 in the stores. Exceedingly large mesh is not favored; fish-net seems the most popular type.

◆Raw Cotton Report

(Continued from page 59)

some little increase of spot offerings in advance of the holidays, the amount of so-called "Christmas cotton" must have been comparatively small. Once the holidays are over, the trade will begin to look forward to the approach of another planting season as a probable test on the stability of present crop holders.

Sentiment as to general business conditions is more or less contingent upon the action of the stock market. It is there that business prospects would logically be expected to find a foreshadowing reflection, and, while a better feeling has developed in Wall Street, it is a question whether it has reached the point of reviving confidence in the face of unsettled international finance and the failure of general business to show as much as the anticipated improvement since the beginning of the autumn. Meanwhile, the fact that increased curtailment in the coarse goods mills of this country is considered necessary, is hardly an encouraging factor from the standpoint of monthly consumption figures—however, favorably it may react on the general tone of the primary goods markets.

So far various bills or resolutions have been introduced in Congress calling for investigations of cotton trade and the Federal Farm Board while there have also been proposals for additional farm relief legislation. The most disturbing of these, perhaps, have been agitation for export debentures or the equalization fee, as uncertainties of this sort have a tendency to confirm foreign buyers in a hand-to-mouth policy.

◆Cotton Wastes Less Active

THE volume of business in cotton wastes fell off somewhat this week owing to the holiday and the approach of the year-end and stock-taking period. The bulk of the interest was centered in spinnable materials; threads and stuffing wastes continues quite dull. Strictly No. 1 peeler comber commands a basis of 92 to 95%, while peeler strips, which are in fairly large supply, bring from 85 to 90% of spot cotton.

Little information is forthcoming as yet regarding activities of dealers in arranging for their waste supplies for 1932. Undoubtedly the commission form of merchandising cotton wastes will gain many new adherents during the coming year because of the unsatisfactory results that have been obtained during the last three or four years from the older contracting method.

TEXTILE FINANCIAL NEWS

TEXTILE WORLD ANALYST

◆Hamilton Woolen's Profit Increases

THE board of directors of the Hamilton Woolen Co., Inc., Southbridge, Mass., declared a dividend of $2 per share and an extra dividend of $2.75 per share on the 38,775 no par common shares outstanding. Both dividends are payable Jan. 15, to stock of record at the close of business Dec. 31.

Coupled with this announcement, Richard Lennihan, treasurer, reported that for the year ended Nov. 31, 1931, operations resulted in a net profit of $340,834 after deducting $62,307 for depreciation and establishing a provision for State taxes and Federal income taxes amounting to $54,000. The net profit, which is equivalent to $8.79 per share, compares with a net in the previous year of $200,238 and a profit in the 1929 year of $190,937. In the 1928 year, the year the stockholders rejected a vote calling for liquidation, the books showed a net profit of $85,088. That was the first year under Mr. Lennihan's guidance. In the two previous years, under the old management, the combined loss was $803,478.

On June 23, 1931, Hamilton declared a dividend of $2 per share. Six months previous a dividend of $1 a share was paid and a similar dividend was distributed in June of 1930. The latter represented the first Hamilton dividend payment since Jan. 10, 1925. The annual meeting of stockholders will be held on Feb. 3, 1932.

Collins & Aikman Profits

An increase of nearly 600% in net profits for the nine months ended Nov. 30, 1931, as compared with the same period in the preceding year, is reported by Collins & Aikman Corp., manufacturers of pile fabrics. The figures follow: net profit this year, $1,203,323 as against $217,245 last year.

Indian Orchard Plans

Arrangement of terms for the purchase of the Indian Orchard (Mass.) Co. plant by the Hodges Carpet Co., as previously noted, have been practically completed, subject to ratification of the boards of stockholders of the two companies. The present owners will be paid in new 7% convertible participating preferred stock, of which 2,000 shares will be given. A form of indenture back of this stock has been agreed upon. At present the Hodges capitalization carries no preferred stock. It is possible that the Hodges company may purchase some of the yarn-spinning machinery from the Indian Orchard Co., and so continue some of the lines now being produced by that company, and there is an unconfirmed rumor that Hodges may add a line of fabrics, possibly draperies, to its rug and novelty products. Hodges will occupy about half of the yarn company's space. Some of the machinery will be disposed of.

Kilburn to Sell No. 2 Mill

At a special meeting last week stockholders of the Kilburn Mills, New Bedford, Mass., approved the recommendation of directors that the company's No. 2 mill be sold in order to reduce overhead and other expenses. Walter H. Langshaw, a large stockholder, who has been active in trying to bring about liquidation, said he thought this was a step in the right direction, and further stated that all capital not required for operation of the remaining mill should be distributed to stockholders. President Henry L. Tiffany agreed with this opinion and intimated that directors were considering such action.

Financial Brevities

United Piece Dye Works, Lodi, N. J., have declared a quarterly dividend of 25c. a share on the common stock, payable Feb. 1, to stock of record Jan. 15, placing the stock on an annual dividend basis of $1 a share, as compared with $2 previously.

Directors of the Riverside & Dan River Cotton Mills voted to pass the dividends on both preferred and common stocks due at this time in view of present conditions in the textile industry and in order to conserve the working capital of the corporation.

Southern Weaving Co., Greenville, S. C., on Jan. 1, will pay semi-annual dividend of 3½% on its preferred stock and 50c. a share on its common, the dividends totaling $11,750.

Piedmont (S. C.) Mfg. Co. will disburse Jan. 1 a dividend of $3 a share on its common stock. Dividends will total $48,000.

The action of the management of the Pierce Mfg. Co., New Bedford, Mass., in deferring payment of the dividend for the fourth quarter has occasioned some surprise in mill circles. During the last two years the dividend rate has been reduced by gradual stages, dropping from the peak of $50 paid in 1922, to $32 for five years in succession, then to $26 in 1928, to $24 in 1929, and to $12 in 1930.

A $2.50 per share dividend on its common stock and $3 per share on its preferred stock will be paid on Jan. 1, by the Chiquola Mfg. Co., Honea Path, S. C., to stockholders of record on Dec. 20. The mill showed a profit for the first ten months of 1931 of $121,854.62.

Guelph (Ontario) Carpet & Worsted Spinning Mills for the fiscal year ended Sept. 30, 1931, showed net earnings of $166,103, against $152,576 for the previous year. After deductions for income tax and depreciation, there remained net profits of $97,682, a gain of $2,000 over the preceding period. After the payment of dividends there remained a surplus of $1,617, compared with a deficit of $4,381 in 1930.

Farr Alpaca Co., Holyoke, Mass., has reduced its dividend on the common stock to $2 annually from $4 by declaring a quarterly dividend of 50c. a share.

Boston Stock Auctions

The following sales of textile shares were made at auction, Dec. 16:

Shrs.	Mill	Par	Price	Change
6	Indian Orchard	...	2 lot	.....
42	Pepperell	100	30½	—12
18	Ludlow	...	62	— 2
7	Naumkeag	100	50	.....
145	Boston Woven Hose	...	18	.....
290	United Elastic Corp.	...	11½	— 3½
25	Knitted Padding Co. com. vtc.	...	30	.....
2	Plymouth Cordage	100	54	— 2
50	Sharp	...	1 lot	.....
130	N. E. So.	...	1 lot	.....
110	West Point*	100	35	— 2½
90	Newmarket	100	10	— 6½
6	Nat. Fabric & Finishing	...	10	.....
12	Merrimack Mfg., pfd.	100	12½	.....
20	Merrimack Mfg., com.	100	2½	—32½
10	Amoskeag Mfg., pfd. (old stock)	100	55½	.....
103	Roxbury Carpet	...	20 lot	.....
1,066	Total			

*Ex. div.

▸New England Textile Stocks

	Sale	Bid	Asked
Am. Mfg. Co., pfd.	50	48	..
Amoskeag	4	..	..
Arlington	23	17	20
Associated Textile	10	..	10
Bates	60	41	..
Berkshire Associates, com	12½	75	1
Berkshire Associates, pfd.	40½	11	15
Bigelow-Sanford, com.	19½	..	..
Boott Mills	120½	40	60
Edwards	80½	42	46
Esmond, pfd.	98	95	99
Farr Alpaca	27	13	..
Hamilton Woolen	55	45	50
Hill	7	4	6
Indian Orchard	10	..	10
Ludlow	62	59	63
Merrimack, com.	2½	2	10
Nashua, com.	7½	3	6
Nashua, pfd.	29	..	21
Naumkeag	50	48	51
Newmarket	10	7	..
Otis	45	40	43
Pacific	8½	..	..
Pepperell	30½	30	32½
Plymouth Cordage	54	49	53
York	8½	6	..

▸Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended Dec. 21.

	High	Low	Last Sale	Net Ch'ge
Adams Millis	26½	24	26½	+2
American Woolen	3¾	3½	3¾	— ¼
American Woolen, pfd.	17¼	15½	17	+ ¼
Belding-Heminway	3	2½	2½	+ ⅛
*Blumenthal	4	3	4	— ¼
Botany Mills, A	⅛	⅛	⅛	.....
Cannon Mills	18¾	18¼	18¼	— ¼
Century Ribbon	4¼	4¼	4¼	.....
Collins & Aikman	7¼	6½	7¼	.....
Consolidated Textile	⅛	⅛	⅛	.....
*Courtaulds, Ltd.	5¼	5¼	5¼	— ¼
Duplan Silk	10	10	10	.....
Durham Hosiery, pfd.	21	21	21	.....
Gotham Hosiery	8¼	6½	7½	—1
Industrial Rayon	26	22	25½	+1½
Kayser, Julius	8½	7½	8½	+1½
Kendall, pfd.	28¼	20¼	28¼	+3¼
*May Hosiery, pfd.	18¼	18½	18¼	— ¼
Mohawk Carpet	9	7½	8½	.....
Munsingwear	13¼	11½	11½	—2½
Pacific Mills	9	7½	9	—1
*Pepperell	32	30	30	—2
Real Silk Hosiery	2½	2½	2½	.....
*Tubize	2½	1½	2½	+ ¼
United Piece Dye Works	12¼	9½	12¼	+2

*Listed on Curb.

Over 330,000 Worsted Spindles Have Been Scrapped

During the last 13 years, the worsted spinning industry has experienced an almost complete cycle of expansion and liquidation in its spinning spindleage, states the Industrial Research Department, Wharton School of Finance and Commerce, University of Pennsylvania, in its fourth and final report on the 1931 worsted spindle inventory.

Over 330,000 worsted spindles have been scrapped in those 13 years, states the report. Scrapping during the last five years has gone on at about the rate of 55,000 spindles per year.

Nevertheless the industry has continued to carry an "excess" capacity burden of between 25 and 40% in spindles completely idle even in months of peak activity.

Details of this report will be given in an early issue of TEXTILE WORLD.

Geer Resigns Judson Mills Treasurership

B. E. Geer, former president of American Cotton Manufacturers Association, and for many years a leading figure in the southern textile industry, has resigned as treasurer of Judson Mills, Greenville, S. C., effective Jan. 1. W. E. Winchester, of Deering, Milliken & Co., New York, N. Y., who was already president of the mill, has been elected to succeed Mr. Geer as treasurer.

Committee D-13 to Meet in Providence

The spring meeting of Committee D-13 of the American Society for Testing Materials will be held at Providence, R. I., on March 10-11, 1932. The local committee on arrangements consists of Kenneth B. Cook, of Manville Jenckes Co., chairman, and David C. Scott, of Henry L. Scott Co. Details of the program will be made public later.

Hearing in R. I. on Night Work for Women

At a meeting of the special commission to study night work by women in Rhode Island last week, two professors declared that the economic crisis calls for abolishing night work to stabilize industry, while more than a score of working girls pleaded that such an action would deprive them of an opportunity to work and throw them upon public charity because of jobless husbands or fathers.

Among those appearing against night work were Professors C. E. Ekstrom, Albert F. Hinrichs and William Adams Brown, labor leader, and many socially prominent women from Providence. Those in opposition included Eugene L. Jalbert, head of the Woonsocket Spinning Co., John R. Dennis, treasurer of the International Braid Co., and Charles S. Pierce, vice-president of the New England Telephone & Telegraph Co.

Mr. Jalbert argued such a law, abolishing night work for women, would be disastrous for some mills, and to the arguments of Professors Hinrichs and Ekstrom that the law would stabilize industry, he said, "the only way to stabilize industry is to abolish all night work altogether."

Paterson Silk Manufacturers Organize

The curbing of trade evils and the launching of a movement for the mutual benefit of members, is the aim of the Silk Manufacturers' Association, a new organization of silk manufacturers of the Paterson, N. J., district. Plans for the association were described by M. M. Baker, and I. Edward Goldwasser, president of Bachmann, Emmerich & Co., in speeches at an organization dinner held at the Alexander Hamilton Hotel, Paterson, Dec. 16.

Mr. Baker, who is executive secretary of the new association, said the organization represents 6,000 looms in the silk industry, and he predicted that it would grow fast. Officers are Irving Zisblatt, of the I. Zisblatt Silk Co., president; Louis E. Cohen, of the Prudential Silk Mills, vice-president; Louis Weiner, of the Weinborn Silk Co., treasurer, and Mr. Baker.

Kayser Takes Furness Output for Two Years

The entire output for two years of the first commercial unit of the Furness Corp., Gloucester City, N. J., manufacturers of cuprammonium rayon by a new process, has been contracted for by Julius Kayser & Co., New York, it became known this week. About 1,000,000 lb. of yarn, of which 60% is 50 denier and 40% 100 denier, is involved in the contract, it is stated.

Berkshire Plans Second Clinic

Invitations to a hosiery fashion clinic have been sent out to hosiery distributors and hosiery stylists, by the Berkshire Knitting Mills. The clinic will be held at the Berkshire mills, Wyomissing, Pa., Thursday, Jan. 14; it will be in charge of Amos Parrish and associates, as was the first clinic held last summer.

News Item Published Prematurely

The news item covering the plans of the Industrial Research Dept., University of Pennsylvania, Philadelphia, for its second annual worsted yarn survey, published on page 66 of TEXTILE WORLD for Dec. 12, 1931, appeared prematurely owing to a misunderstanding as it was not officially released until Dec. 15, 1931.

Senator Metcalf Calls Market Information Vital

Were business better organized and were its units better informed as to market potentialities, much needless overproduction could be avoided in the opinion of Senator Jesse H. Metcalf of Rhode Island, a member of the Manufactures Committee, which is considering the proposal to establish a National Economic Council. Despite the progress that has been made in that direction he believes it represents only a good start and that much more must be done. Mr. Metcalf is an executive of the Wanskuck Co., Providence, R. I.

Production should not be greatly increased, Senator Metcalf is convinced, in the hope that the necessary market may be secured by taking business from a competitor. Usually the competitor will be found to be very resourceful when it comes to holding his customers. Expansion of facilities should be undertaken only when it is very evident that new business is going to be available. If more attention is given to market research the results will show that production cannot be expended promiscuously on the assumption that the necessary market can be taken away from some one else, the Senator from Rhode Island believes.

Senator Metcalf is far from being convinced that the proposed Council will do much to further a more orderly conduct of business.

Elect Heads for American Chemical Society

Election of Prof. A. B. Lamb of Harvard University as president of the American Chemical Society for 1933 is announced. The president for 1932 is Dr. L. V. Redman, vice-president and director of research of the Bakelite Corp., Bloomfield, N. J., who succeeds Prof. Moses Gomberg of the University of Michigan on Jan. 1. The Society elects each year a president and a president-elect who serve in successive years.

Navy to Open Bids on Silk and Toweling

Bids for furnishing 10,000 yd. 36 to 37-in. white parachute silk will be opened at the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., on Jan. 5.

On Jan. 12 bids for furnishing 9,600 yd. 28-in. Turkish toweling will be opened.

No Merger Between Middishade Co. and Beaver Mills

It was recently reported that the Middishade Co., Philadelphia manufacturers of a nationally advertised brand of clothing, had acquired the Beaver Worsted Mills, Inc., Frankford, Philadelphia. This report is incorrect. The facts are

that Beaver Worsted Mills were discontinued and succeeded by the Beaver Mills with Samuel D. Manuel continuing as the active head, and the equipment of this mill, consisting of 20 looms, together with 20 additional looms, has been located in quarters which have been leased in the Middishade building.

Louis Sussman, general manager of the Middishade Co., states that there is no connection whatsoever between his company and the Beaver Mills, other than landlord and tenant.

▸ Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Dec. 19, based upon data compiled by Dept. of Agriculture, follow:

	Week Ended Dec. 19	Total to Date 1931	Total to Date 1930
Domestic	2,870,000	255,354,000	245,792,000
Foreign	581,000	38,250,000	56,839,000
Total	3,451,000	293,604,000	302,631,000
IMPORTS AT PRINCIPAL PORTS			
Boston	581,000	38,250,000	56,839,000
Philadelphia	834,000	50,225,000	43,297,000
New York	891,000	52,851,000	44,115,000
Total	2,306,000	141,326,000	144,251,000

▸ Clemson School Installs Bahnson Humidifiers

Clemson College (S. C.) Textile School recently announced that The Bahnson Co., Winston-Salem, N. C., has completed the installation of humidifying units in the textile department. Latest Model H type heads were installed in the warping and winding division and the special trunk humidifying system was placed in the knitting.

▸ W. R. Rietheimer in Yarn Business on Own Account

William R. Rietheimer, for many years with William Whitman Co., representing that company's yarn department in the Middle West, has opened an office at 222 West Adams St., Chicago, Ill., for the sale of yarns on his own account. He is representing Boger & Crawford on mercerized yarns and Thos. Wolstenholme Sons & Co. on French-spun worsted and zephyr yarns.

▸ Pacific Mills Cotton Division Moves New York Offices

The New York headquarters of the cotton division of Pacific Mills hitherto located at 24 Thomas St., were moved this week to 214 Church St., corner of Worth St. To mark the opening of the new headquarters the company will hold an exhibit there, Jan. 4 to 11.

▸ Widder Bros. Offer Par-Weighted Crepe

Widder Bros., New York, announce the introduction of a new par-weighted crepe for their spring, 1932, line, Qual. 9005.

Business News

Norwood Appoints W. C. Hanson as New York Agent

The Norwood Engineering Co., general offices and works Florence, Mass., has appointed W. C. Hanson in charge of sales in the New York Metropolitan District, for line of swimming pool, industrial and municipal filters and accessories. Mr. Hanson, who has been and will continue to be the company's export manager, is located at 50 Church Street, New York.

Fuerst-Friedman Co. Change Firm Name

At a recent directors' meeting of the Fuerst-Friedman Co., Cleveland, Ohio, it was resolved to change the name of the firm to Electric Generator & Motor Co., as being more descriptive of the business carried on—the sale, rebuilding, repairing and rental of electrical machinery and equipment. The firm was established in 1900. The change of name, it is stated, involves no change in ownership, financial set-up, personnel or location.

Gross Engineering Corp. Moves to Larger Plant

To provide space for handling its increasing business, the Gross Engineering Corp., has now removed from its former location at 3730 West 73rd St., Cleveland Ohio, to the plant formerly occupied by the Gross Lead-Burning & Coating Co. at 3954 West 25th St., Cleveland. Louis Gross, president of the Gross Engineering Corp., states that the change was rendered necessary largely on account of the growing demand in the chemical and process industries for the corporation's new "Leadhesion" process of acid-proof lead-coating protection for metals subject to corrosion.

Bausch & Lomb Give Course for Chemists, Including Textile Men

The Bausch & Lomb Optical Co., Rochester, N. Y., announce the successful completion of their first two weeks course for chemists in the use of optical instruments. Registration was by invitation and was limited to 15 men, representing 15 nationally known companies maintaining research and control laboratories.

The course as given presented theory and principles; laboratory work in the use of instruments; and 2½ days of special work for problems and samples brought by the registrants. Some of the individual topics were colorimetry, spectrophotometry, spectrography, refractometry, microscopy, photomicrography and chemical microscopy.

The staff of instructors was entirely made up of members of the Bausch & Lomb Scientific Bureau, with the exception of Dr. Chamot, of Cornell, who as guest instructor, took care of the work with the chemical microscope.

The purpose of the course was to familiarize the registrants with the possibilities of instrumental methods, and to demonstrate some of the more recent developments such as the Littrow quartz spectrograph.

Of special interest to textile men is the attendance of L. Christison of the American Woolen Co., and J. Gervin Cluett of Cluett, Peabody & Co., Inc. The course was so completely successful and satisfactory to everyone, that it will no doubt be repeated next year.

Robert H. Morse Heads Fairbanks, Morse & Co.

Robert H. Morse, formerly vice-chairman of the board of directors, has been elected to the positions of president and general manager of Fairbanks, Morse & Co., Chicago, succeeding W. S. Hovey on his resignation, Dec. 1. Mr. Morse entered the employ of Fairbanks, Morse & Co., the firm founded by his father, in 1895. He has been employed in various positions as salesman, department manager, branch house manager, sales manager, president of the manufacturing division, vice-president in charge of purchases, first vice-president, vice-chairman of the board and now president and general manager. Mr. Morse is also a director of E. & T. Fairbanks & Co., the Canadian Fairbanks-Morse Co., Ltd., E. & T. Fairbanks Co., Ltd., and Central Republic Bank & Trust Co.

C. F. Radley New President of Exhibitors Committee

At the annual meeting of the board of directors of the Exhibitors' Committee Industrial and Power Shows, Inc., the following officers were elected for 1932: president, C. F. Radley, publicity director, Oakite Products, Inc., New York; vice-president, Victor Michum, C. J. Tagliabue Mfg. Co., Boston; secretary, G. S. Carrick, American Arch Co., New York; treasurer, J. P. Ferguson, Reading Steel Casting Co., Bridgeport, Conn.

The Exhibitors Committee Industrial and Power Shows, Inc., established in 1926, is a non-profit organization of manufacturers interested in the improvement of conditions relating to industrial exhibitions.

Temperature Instrument Manufacturers Merge

The Pyrometer Division of the Wilson-Maeulen Co., Inc., New York, has merged with the Foxboro (Mass.) Co. This action has followed 25 years of close and friendly cooperation between the two companies, and was made in the interest of better service to industry.

The entire personnel of the Pyrometer Division of Wilson-Maeulen Co. will be merged with that of the Foxboro Co. The Wilson-Maeulen Co. specializes in the manufacture of electric indicating, recording and controlling pyrometers and electric resistance thermometers for temperatures up to 3,600 deg. F. Thus, by including the Wilson-Maeulen temperature instruments, the Foxboro Co. can now offer a complete range of instruments of standardized quality.

The famous Rockwell hardness tester that has been manufactured by the Wilson-Maeulen Co. will hereafter be built and sold by the Wilson Mechanical Instrument Co. which succeeds the Mechanical Instrument Division of Wilson-Maeulen Co., Inc., and continues in the same factory and offices in New York. The Wilson-Maeulen pyrometers and controllers will be built in Foxboro, Mass.

QUOTATIONS

at close of business, Dec. 22, 1931
Prices cover average qualities unless otherwise stated

Cotton Goods

	Dec. 22	Dec. 16	Dec. 24 1930
PRINT CLOTHS			
27 -in., 64x60, 7.60	2 3/16–2¼c.	2¼c.	3⅞c.
38½-in., 64x60, 5.35	3¼c.	3¼c.	5⅛–5¼c.
39 -in., 68x72, 4.75	3¼c.	3¼c.	5¼–6 c.
39 -in., 72x76, 4.25	4¼c.	4¼c.	6¼–6¾c.
39 -in., 80x80, 4.00	5–5¼c.	5 c.	7¼–7¾c.
BROWN SHEETING			
36-in., 56x60, 4.00	4¼c.	4¼c.	6 –6¼c.
36-in., 48x48, 3.00	4¼c.	4¼c.	6¼–6¾c.
37-in., 48x48, 4.00	3⅞–4c.	3⅞–4c.	5¾–5¾c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	4¼c.	4¼c.	6c.
36 -in., 64x60, 5.75	3¼c.	3¼c	5c.
MISCELLANEOUS			
Drills, 37-in., 3 yd..	4¼c.	4¼c.	7¼c.
Denims, 2.20	9¼c.	9¼c.	12¼c.
Tickings, 8 oz.	13 c.	13 c.	16 c.
Standard prints	7 c.	7 c.	7½c.
Eastern staple ginghams, 27-in.	7¼c.	7¼c.	8 c.

Cotton Waste

Peeler comber	5½ – 5¾
Peeler strips	5¼ – 5½
Sak. comber	4¾ – 5
Choice willowed fly	2¾ – 3¼
Choice willowed picker	2 – 3
Sak strips	6½ – 6¾
Linters (mill run	1¾ – 2¼
White spooler (single)	4¼ – 4¾

Cotton Yarn

CARDED (Average Quality)
Double Carded 2c.—4c., higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.13	22s	$0.16
10s	– .13½	24s	– .17
12s	– .14	26s	– .18
16s	– .14½	30s	– .19½
20s	– .15½	40s ex. qual.	– .28

TWO-PLY SKEINS AND TUBES

8s-2	$0.13½	26s-2	$0.18½
10s-2	– .13½	30s-2	19– .19½
12s-2	– .14	36s-2	– .25
14s-2	– .14½	40s-2	– .27
16s-2	– .15	40s-hi.brk.	– .30
20s-2	15½– .16	50s-2	– .35
24s-2	17½– .18	60s-2	– .38

SINGLE WARPS

10s	$0.13½	24s	$0.17
12s	– .14	26s	– .18
14s	– .14	30s	– .19½
16s	– .14½	40s. ex.qual.	– .28
20s	15 – .15½		

TWO-PLY WARPS

8s-2	$0.13½–0.14	24s-2	$0.17½
10s-2	14 – .14½	26s-2	– .18½
12s-2	14½– .15	30s-2	.19 – .20
14s-2	15 – .15½	40s-2 ordin.	– .27
16s-2	– .15½	50s-2	– .35
20s-2	.15½– .16	60s-2	– .38

8s-2 and 4-ply skeins and tubes; tinged, 12; white, 13½; waste, 11½

HOSIERY CONES (Frame Spun)

8s	$0.13	22s	$0.16½
10s	– .13½	24s	– .17
12s	– .14	26s	– .18
14s	– .14½	30s tying	– .18½
16s	– .15	30s reg.	– .20
18s	– .15½	30s ex.qual.	21 – .22
20s	– .16	40s	– .27

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.25 – .26	60s-2	$0.40 – .43
30s-2	.28 – .30	70s-2	.52 – .54
36s-2	.32 – .33	80s-2	.63 – .65
40s-2	.33 – .34	90s-2	.85 – .90
50s-2	.37 – .38	100s-2	1.03 –1.05

WARPS, SKEINS AND CONES
TWO-PLY—(Warp Twist)

20s-2	$0.26	60s-2	$0.42
30s-2	– .31	70s-2	– .55
36s-2	– .34	80s-2	– .63
40s-2	– .35	90s-2	– .93
50s-2	– .38	100s-2	–1.03

SINGLES

12s	$0.20	30s	$0.26½–0.28½
14s	– .20½	38s	– .31
16s	– .21	40s	– .32
18s	– .21½	50s	– .37
20s	– .22½	60s	.42 – .44
24s	.24½– .25	70s	.55 – .56
28s	.26½– .27½	80s	.65 – .66

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.36½–0.38½	90s-2	$0.90
30s-2	.38 – .40	100s-2	1.15–1.25
36s-2	.40 – .42	120s-2	1.50–1.60
40s-2	.42 – .44	30s	.51– .52
45s-2	.42½– .44½	40s	– .56
50s-2	.45 – .47	50s	.61– .64
60s-2	.50 – .54	60s	.70– .73
70s-2	.64 – .66	70s	.80– .83
80s-2	.73 – .75	80s	.92– .96

Cotton Prices and Statistics

COTTON STATISTICAL DATA
(Fluctuations of Futures)

	Closed Dec. 17	For Week High	For Week Low	Closed Dec. 22	Net Ch'ge
December	6.06	6.26	6.02	6.17	+.11
January	6.07	6.31	6.05	6.17	+.10
February	6.16	6.34	6.16	6.24	+.08
March	6.25	6.48	6.22	6.34	+.09
April	6.34	6.51	6.34	6.42	+.08
May	6.44	6.68	6.41	6.51	+.07
June	6.52	6.69	6.52	6.60	+.08
July	6.62	6.85	6.59	6.70	+.08
August	6.71	6.89	6.71	6.78	+.07
September	6.80	6.98	6.81	6.86	+.06
October	6.89	7.13	6.86	6.96	+.07

SPOT FLUCTUATIONS FOR WEEK
(Middling)

	New York	New Orleans	Liverpool
Thursday, Dec. 17	6.20	6.04	5.14
Friday, Dec. 18	6.35	6.25	5.20
Saturday, Dec. 19	6.40	6.20	5.27
Monday, Dec. 21	6.30	6.14	5.22
Tuesday, Dec. 22	6.30	6.14	5.27

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Dec. 21		Change
Jan. Sak	12.25	—0.15
Dec. Uppers	9.85	+0.50
Dec.-Jan. Shipment c. i. f. Boston (Tariff not included)		
Fully good fair Sak		11.15
Fully good fair to good Uppers		9.35

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	17¼
Peruvian Pima No. 1	16
Peruvian Moderate Rough	13
Peruvian Full Rough	17
China Tientsin No. 1	10
India Rough	7 to 9½
India Smooth	6½ to 8½

(By Bruns-Nordeman Co.)

MOVEMENT INTO SIGHT

	This Year	Last Year	Year Before Last
Week	411,000	332,000	458,000
Season	†9,440,000	9,882,000	10,567,000

†13,000 added.

WORLD VISIBLE SUPPLY

	Today	One Year Ago
Interior towns and ports of U. S.*	6,831,000	5,935,000
Afloat to and at ports of Europe	1,534,000	1,939,000
Afloat to and at ports of Orient	813,000	308,000
Total	9,178,000	8,182,000
	Increase	Increase
Change during week	20,000	21,000

*Incudes afloat to New York

FORWARDINGS TO MILLS OF WORLD

	This Year—Week	This Year—Season	Last Year—Week	Last Year—Season
No. States, U.S.	26,000	341,000	28,000	360,000
So. States, U.S.	112,000	2,194,000	98,000	1,948,000
Total U.S.	138,000	2,535,000	126,000	2,308,000
Great Britain	31,000	457,000	20,000	371,000
Continent	84,000	1,269,000	105,000	1,475,000
Orient	133,000	1,084,000	55,000	479,000
Canada and other America	5,000	†84,000	5,000	104,000
Total foreign countries	253,000	†2,894,000	185,000	2,429,000
World total	391,000	†5,429,000	311,000	4,737,000

†13,000 added (Canada, etc.)

EXPORTS FROM UNITED STATES

Total	259,000	3,610,000	193,000	3,702,000

AVERAGE PRICE DEC.-JAN., SHIPMENT HARD WESTERN COTTON
F.o.b. New England

	Middling	St. Middling
1 1/16-in.	8 – 8¼c.	8¼– 8¾c.
1⅛-in.	8¾– 9¼c.	9¼– 9¾c.
1 3/16-in	9¾–10¼c.	10¼–11c.
1¼-in	12½–13½c.	13½–14½c.

Basis on New York, March, 6.34.

SPOT FLUCTUATIONS AND STOCKS

Markets	Dec. 16	Dec. 22	Sales	This Week	Last Year
Galveston	6.10	6.20	3,317	906,339	697,256
New Orleans	6.07	6.14	13,124	845,760	764,264
Mobile	5.70	5.75	1,461	240,969	167,044
Savannah	5.94	6.02	1,938	320,318	310,171
Norfolk	6.13	6.19	263	70,181	97,735
New York	6.20	6.30	3,084	222,240	230,686
Augusta	5.94	6.00	1,475	135,848	136,063
Memphis	5.50	5.60	58,346	489,109	401,253
St. Louis	5.70	5.80	.....	.....	12,722
Houston	6.00	6.10	20,490	1,646,591	1,510,718
Dallas	5.60	5.65	42,865	55,398	41,485

DIFFERENCES ON AND OFF MIDDLING WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	0.65†	.75†	0.75†	0.75†	0.72†
S.G.M	.50†	.50†	.65†	.63†	.57†
G.M	.40†	.40†	.45†	.44†	.42†
S.M	.25†	.25†	.25†	.25†	.25†
S.L.M	.25*	.20*	.25*	.25*	.26*
L.M	.50*	.50*	.55*	.50*	.60*
S.G.O.**	.75*	.75*	.90*	.88*	.92*
G.O	1.00*	1.00*	1.25*	1.25*	1.27*
YELLOW TINGED					
G.M	0.30*	0.25*	0.30*	0.31*	0.29*
S.M	.45*	.40*	.45*	.44*	.47*
M.**	.65*	.50*	.65*	.50*	.67*
S.L.M	1.00*	.90*	1.00*	.88*	1.03*
L.M	1.35*	1.40*	1.35*	1.25*	1.41*
YELLOW STAINED					
G.M	0.65*	0.60*	0.65*	0.50*	0.68*
S.M.**	.90*	1.10*	.90*	.75*	.97*
M.**	1.35*	1.35*	1.35*	1.25*	1.42*
BLUE STAINED					
G.M.**	0.65*	0.35*	0.65*	0.50*	0.66*
S.M.**	1.00*	.85*	1.00*	.88*	1.02*
M.**	1.35*	1.10*	1.35*	1.25*	1.39*

**Grades not deliverable on contract.
*Off Middling. † n Middling

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA
(IN GREASE)

Fine delne	$0.24 – $0.25	⅜ blood	$0.23 – 0.24
Fine clthg	.20 – .21	¼ blood	.21 – .21½
½ blood	.23 – .24		

TEXAS AND CALIFORNIA
(CLEAN BASIS)

Texas, 12 months	$0.55 – 0.57
California, Northern	.47 – .49

PULLED—EASTERN (CLEAN BASIS)

A.A	$0.58 – $0.60	B-Super	$0.43 – 0.45
A-Super	.48 – .50	C-Super	.38 – .40

MONTANA, IDAHO AND WYOMING
(CLEAN BASIS)

Staple fine	$0.47 – 0.49
Staple ½ bld	.54 – .55
Fine and fine medium	.52 – .55
⅝ blood	.48 – .50
¾ blood	.41 – .43

MOHAIR—DOMESTIC

Best carding	$0.25 – 0.28
Best combing	.32 – .35

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 – 0.21
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING
(CLEAN BASIS IN BOND)

Australia:	
7s	$0.43 – 0.45
64s	.36 – .38
58s-60s	.31 – .33

(IN GREASE)

Montevideo:	
58s-60s	$0.17 – 0.18
56s	.16 – .17
50s	.15 – .16
Buenos Aires:	
4s, 40-44s	$0.10 – 0.11
5s, 36-40s	.09 – .10

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.19 – 0.20
China: Combing No. 1	.12 – .13
China Filling Fleece	.11 – .12
Szechuen ass't	.12 – .13
Cordova	.09 – .10
Scotch black face (nominal)	.14 – .16
East India: Kandahar	.15 – .16
Vican'r	.19 – .20
Joria	.19 – .20

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.75
2-24s 40s	– .80
2-26s 44s	.82½ – .85
2-28s 46s	– .87½
2-30s 48s	.92½ – .95
2-32s 50s	.97½ – 1.00
2-30s 64s fancy mixes	1.35 – 1.37½
(Single yarns 5c. less than above)	
2-36s 58s	1.05
2-40s, 60s	– 1.20
2-40s, 64s	1.27½ – 1.32½
2-50s, 66s	1.40 – 1.45
2-60s, 70s	1.82½ – 1.85

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.70 – .72½
2-20s, 48s in oil	.72½ – .75
2-20s, 50s in oil	.75 – .80
2-20s, 56s in oil	.92½ – .95
2-20s, 60s in oil	– 1.00
2-20s, 64s in oil	1.12½ – 1.15
1-18s, 48s dyed	.90 – .92½
1-18s, 50s dyed	.92½ – .95
(Oil yarns 7½c. less)	

FRENCH SYSTEM

1-20s, 58s	.97½ – 1.00
1-20s, 60s	1.02½ – 1.05
1-18s, 64s, dyed	1.25 – 1.27½
1-26s, 64s	1.07½ – 1.10
1-30s, 60s, Warp	1.12½ – 1.15
1-30s, 64s, Warp	1.15 – 1.17½
2-30s, 64s, Fancy mixes	1.35 – 1.37½
2-40s, 64s, Zephyrs	1.27½ – 1.30
1-50s, 66s	1.42½ – 1.47½
2-50s, 66s	1.45 – 1.50
1-60s, 70s	1.75 – 1.80
2-60s, 70s	1.90 – 1.95

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$0.90 – .95
1-40s, 50-50-60s on cops	1.00 – 1.02½
1-40s, 50-50-64s on cops	1.02½ – 1.05
1-40s, 50-50-64s Australian cops	1.10 – 1.15

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed Dec. 16	For Week High	For Week Low	Closed Dec. 21	Net Ch'ge
December	66.50	67.00	66.50	67.00	+0.50
January	67.00	67.00	67.00	67.00	.....
February	.....	67.00	67.00	67.00	.....
March	66.50	67.20	66.20	67.00	+0.50
April	66.50	67.00	66.50	67.00	+0.50
May	66.50	67.20	66.50	67.00	+0.50
June	66.50	67.00	66.50	67.00	+0.50
July	66.50	67.30	66.20	67.00	+0.50
August	66.50	67.00	66.50	67.00	+0.50
September	66.50	67.00	66.50	67.00	+0.50
October	67.00	68.00	67.00	68.00	+1.00
November	66.50	67.50	66.50	67.00	+0.50

Tops and Noils

TOPS —BOSTON

Fine (64-66s)	$0.78 – 0.79
Half-blood (60-62s)	.72 – .75
High ¾ blood (58s)	.67 – .69
Aver. ¾ blood (56s)	.61 – .64
Low ¾ blood	.58 – .60
High ½ blood (50s)	.53 – .55
46s S. A. and N. Z.	.58 – .60
44s S. A. and N. Z.	.53 – .55
40s S. A. and N. Z.	.48 – .50

TOPS — BRADFORD, ENG. (DEC. 18)

Fine (70s)	26 d	¾ bld. (56s)	18 d
Fine (64s)	24 d	½ bld. (50s)	13½d
½ bld. (60s)	23 d	Cross-bred (46s)	11 d

NOILS — BOSTON

Fine	$0.31 – $0.34	High ½ bld.	$0.27 – $0.28
Half-bld	.30 – .31	Low noils	.21 – .23
Aver. ¾ bld.	.27 – .29	Medium colored	.22 – .24
Fine colored	.30 – .31		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.55 – .58
Lap, fine colored	.40 – .43
Hard ends, fine white	.41 – .43
Hard ends, ½ blood white	.30 – .32
Hard ends, fine colred	.18 – .20
Hard ends, medium colored	.13 – .15
Card, fine white	.22 – .24
Burr, fine carbonized	.23 – .25

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, coarse light	$0.04½ – 0.05
Merinos, fine dark	.02½ – .03
Merinos, fine light	.08½ – .09½
Serges, blue	.04½ – .05
Serges, black	.04½ – .05
Serges, red	.07½ – .08
Knit, white	.18 – .19
Knit, red	.08 – .09
Knit, light hoods	.08 – .09
Worsted, light	.03½ – .04
Worsted, blue	.05 – .05½
Worsted, black	.05½ – .06

Silk Yarns

THROWN SILK (60 day basis)
Prices Nominal

Japan organzine, 2 thd. spec. gd. XX sk 85%	$3.35
Japan organzine, 2 thd. grand sk. 83%	3.15
Japan organzine, 2 thd. sp. crack. sk. 81%	3.00
Japan crepe, 3 thd. gd. XX bob. 83%	3.15
Japan crepe, 3 thd. sp. crack. bob. 81%	3.05
Japan grenadine, 4 thd. sp. grand singles, 87%	4.25
Japan grenadine, 3 thd. 90%	5.15
Canton crepe, 3 and 4 thd. 14/16 on bobbins	2.30
Hosiery tram, 3 thd. Japan 90%	4.00
Hosiery tram 5 thd, Japan, 85%	3.05
Hosiery tram, crack XX 78%	2.75

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.45
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods)
Prices Nominal

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$2.60	$2.15	$2.15
Special Grand, 85%	2.35	2.10	2.10
Grand XX, 83%	2.20	2.05	2.05
Special Crack, 81%	2.10	2.00	2.00
Crack XX, 78%	2.00	1.95	1.90
Extra Extra, 73%	1.95	....	....
Best Extra, 68%	1.90	....	....

Canton filature, new style, 14/16	$1.65
Canton filature, new style, 20/22	1.60
Tussah filature, 8 cocoon	.92

NATIONAL RAW SILK EXCHANGE

	Close Dec. 16	For the Week High	For the Week Low	Close Dec. 21	Net Ch'ge
December	1.91	1.91	1.80	1.80	—.11
January	1.85	1.85	1.75	1.79	—.06
February	1.90	1.90	1.79	1.80	—.10
March	1.92	1.92	1.79	1.82	—.10
April	1.93	1.94	1.82	1.82	—.11
May	1.93	1.93	1.80	1.82	—.11
June	1.93	1.95	1.80	1.82	—.11
July	1.93	1.93	1.80	1.82	—.11

Total number of bales, 4,780. Total approximate value, $1,303,267. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
30	8	$2.25	....
50	12-18	1.35	$1.25
75	18-30	1.20	1.10
100	18-40	1.00	.90
125	36-50	.90	.80
150	30	.72	.70
150	24-44	.75	.72
150	60	.85	.82
150	75-90	.85	.82
170	24-27	.75	.72
170	60	.85	.82
200	30-42	.75	.72
300	42-62	.63	.60
450	42-72	.63	.60
600	72-96	.63	.60
900	100-144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	75	60	$1.30
25	24	2.85	80	60	1.30
30	24	2.60	100	75	1.10
40	30	1.70	120	90	1.00
52	30	1.50	150	112	.90
65	45	1.40	180	135	.87

ACETATE PROCESS

Denier	Price	Denier	Price
45	$1.60	125	$1.10
60	1.50	150	1.00
75	1.40	300	1.00
100	1.30		

Rayon Waste

Open bleached waste	$0.13–$0.14
Open bleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06– .07
Colored thread waste	.03– .04
Colored clips	.03– .04

CONVERTED RAYON WASTE

Bleached tops	$0.30–$0.32½
Unbleached tops	.27– .28
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10– .11

Silk Waste

Kibizzo Kakai Grand XX	$0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49
Pierced Cocoons	.50

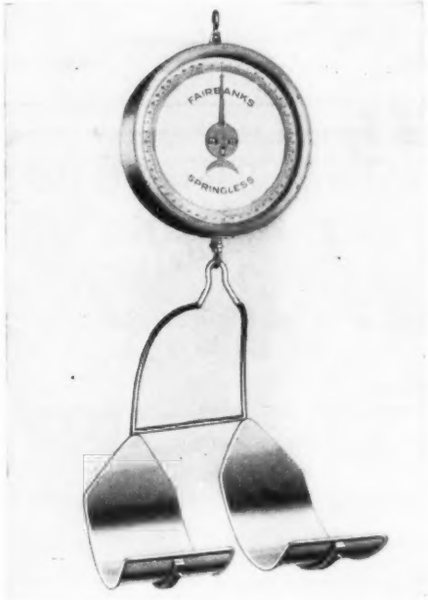
TEN MEN
Wait 30 Days

There are ten men in this mill to read one copy of *Textile World* each week. When the chief is away, it has to lie on his desk for a week, then it goes on to the superintendent's office, then to the purchasing agent.

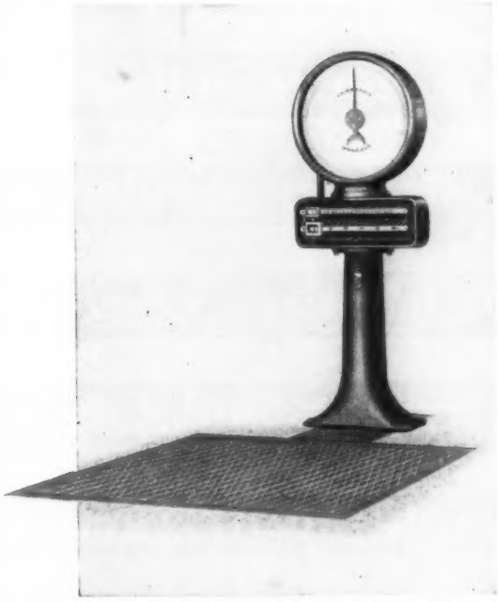
No. 10 man got his copy 30 days after it was out. Several articles were torn out, a few ads were gone. He missed a series of articles from which he had been getting new ideas.

The remedy is to get more than one copy. No mill can afford these days to have its key men ignorant of current developments. Check over your routing list now. See when No. 10 gets his copy and how dog eared it looks. Then send us your order for the necessary number of copies to assure each executive and key man in your plant having a personal copy to study at his leisure.

These scales pay dividends in time saved and errors prevented



FAIRBANKS LAP DIAL SCALE
Especially designed for weighing cotton laps, skeins of yarn, rolls of cloth, etc. Built to stand hard use. No springs or delicate parts. Extremely accurate.



ALL METAL, SUSPENDED PLATFORM DIAL SCALE WITH FULL-CAPACITY, DIRECT-READING DIAL.
Easily installed. Platform rests flush with floor. Suspended platform absorbs all platform motion. Equipped with tare beam so that net weight can be read directly from dial.

FROM receiving platform to shipping room, Fairbanks Dial Scales can be used profitably. These modern scales speed up production because they give accurate weight quickly. There are no weights or poises to juggle. Weight is read easily with a glance at the big, clearly marked dials. Pointers come to rest without wavering. Errors are reduced to a minimum.

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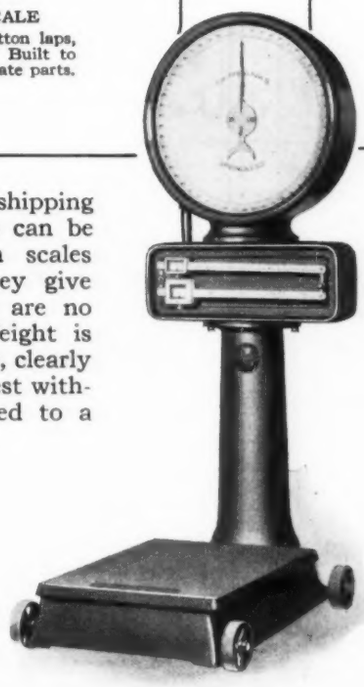

FAIRBANKS PORTABLE DIAL SCALE
Used where extreme accuracy is required in weighing loads up to 200 pounds. Gives accurate weight to small fraction of pound. Dials graduated to ¼, ⅛, and 1/10 of a pound. Readings can be made as fast as loads can be handled. Built to withstand hard use.

The lasting dependability of Fairbanks Scales is traditional. For more than a century the Fairbanks name has been synonymous with "accurate weight." Your investment in weighing equipment is *protected* when your scales are Fairbanks built.

In the broad Fairbanks line you will find scales that will fit your many requirements exactly. Let us explain how you can reduce costs and protect profits by using Fairbanks Dial Scales. There's no obligation.

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And 40 principal cities—a service station at each house

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Our knowledge of textile chemistry, based on 115 years of experience in this field is at your service on problems in sizing, softening, finishing, or weighting of yarn or fabric . . .

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Dyers, Bleachers and Mercerizers of Cotton Yarns in Warps or Skeins.

High Class Mercerizing Only — Fast Colors A Specialty

A new plant, latest and most modern machinery and equipment, backed by 40 years of specialized experience, guarantees service and satisfaction.

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We make a Specialty of Binding and Narrow Fabrics.
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Cotton Yarn and Warps *Carded and Combed*
White and Colored Single and Ply
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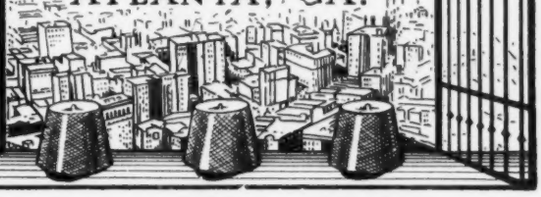

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A man-sized job if there ever was one—color matching. Suffice to say, Globe attracts a host of difficult color assignments. We do not always hit the bulls-eye but we are consistently close.

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Dyers, Bleachers and Mercerizers

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Cotton Yarns, Tapes, Braids, Threads, Hosiery, Rubber Linings, etc., Coning, Tubing, Reeling. Bleaching and Dyeing Rayons a specialty.

Direct, Sulphur, Sunfast and Vat dyes, dyed on cotton and rayon

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Only by testing in your plant can you appreciate the efficiency and economy of Wyandotte Textile Alkalies. You are both judge and jury.

A test will place you under no obligation whatsoever.

Write for detailed information.

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Quality and Service

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The J. B. FORD COMPANY

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Enthusiasm is Catching

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VAT, SUNFAST AND REGULAR COLORS ON RAYON

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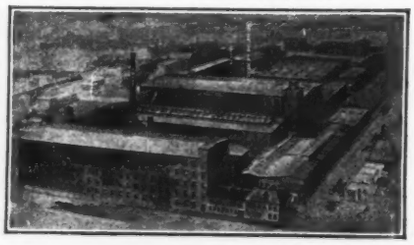

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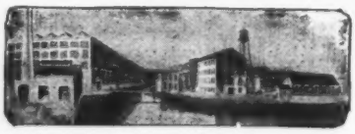

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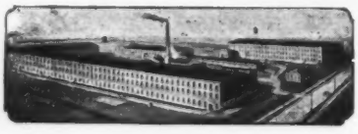

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NO FADED whites or yellows when you use the B & L method of bleaching cotton. Because, with B & L Bleaching Oil you use a minimum of the chemicals which are known to harm the fiber, and you do not use any soap in connection with the bleaching process. The result is clean, pure white fibers that hold all their natural softness and strength. And not only do you improve the bleach, but you save considerably in doing so. The B & L method saves one-quarter to one-half the time and steam required, it saves most, if not all of the caustic, 25% of the chloride of lime, 25% of antichlorine or acid, and all the soap. Proof? — yes, ample proof, right in your own plant. Trial lot subject to approval —Write.

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A change in soap cuts down re-dyes

A mill man awoke to the fact that he was paying heavily for re-dyes. A query went out to the dye house. Back came the answer, "The cloth isn't clean. That's why we can't get even shades."

The mill man knew Draper's 70-year experience in making soap. So the problem found its way here. Careful study and experiment followed. A new blend of soap was prepared. The first shipment was soon followed by a big re-order. Then another, and another. Reports from the mill man are enthusiastic. *The new blend of soap has cut down re-dyes!*

There are scores of ways in which the right soap can reduce mill costs. Let Draper work with you in finding the right soaps for *your* mill.

Nottingham Curd
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WRITE direct to Pawtucket for prices on any standard soap. Immediate shipment.

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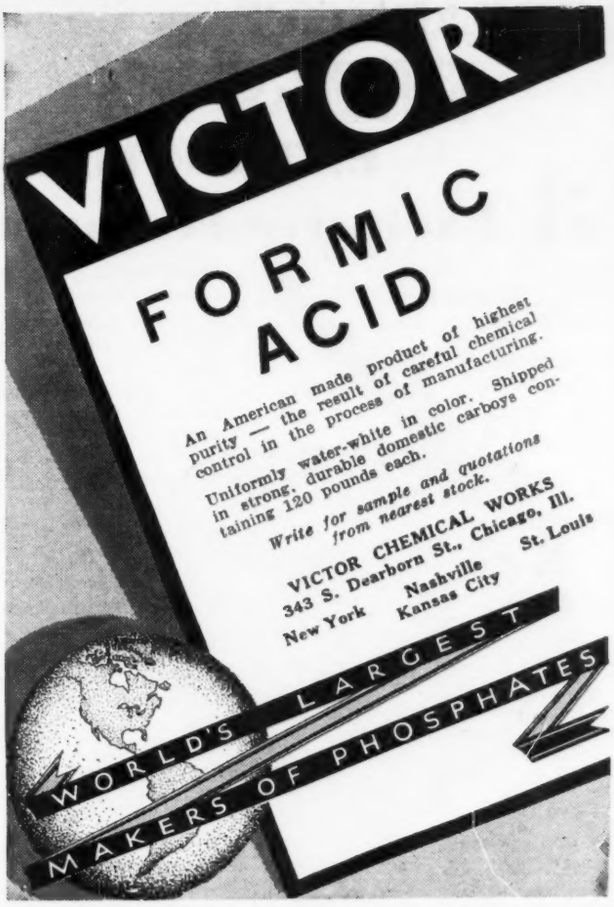
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Unexcelled for Penetration . . . Leveling
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Made From Hercules Pine Oil

W. F. FANCOURT & CO., Inc.

Manufacturing Chemists
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Improved Equipment and Processing in the Manufacture of

EAGLE
STARCH

has achieved

1—GREATER UNIFORMITY of moisture content and fluidity of paste. While Eagle Starch always has been approved for its uniform quality, the new Eagle Starch is controlled within still narrower limits. Every package is absolutely uniform in moisture and fluidity.

2—REDUCED SEDIMENT or residue. Especially designed equipment has resulted in the elimination of practically all sediment—which means smoother, cleaner size. Try a "creaming" test.

3—ABSENCE OF SOLUBLE SUBSTANCES which have no starch value. By additional washings, soluble impurities have been removed from the new Eagle Starch.

4—CLEANSING OF THE AIR used for drying starch is an innovation. In manufacturing the new Eagle Starch, the finest particles of dust and dirt that are in the air are removed prior to using this air for drying Eagle.

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For best results, always be sure that starch is thoroughly "creamed" by stirring with cold water before admitting steam. For further information, please write

CORN PRODUCTS REFINING CO.
17 Battery Place, New York, N. Y.

THIS HARNESS OFFERS 6 IMPORTANT ADVANTAGES

Try it at our risk; sign and mail the coupon below . . .

Emmons CHAFELESS CORD Harness represents a new and important advance in harness making . . . gives you a harness that offers 6 important advantages over ordinary harness. We would like to have you try a set at our risk.

Here are the 6 advantages which CHAFELESS CORD offer the man responsible for your weaving:

1. **Notable improvement in the "cover" of fine and medium weaves;**
2. **Less "fly";**
3. **Reduction in warp breaks and resulting loom stops;**
4. **Longer wearing of the harness eyes;**
5. **Enhanced flexibility of the harness;**
6. **Humidity proof qualities.**

These advantages have been achieved through unique manufacturing processes. CHAFELESS CORD is the result of three generations of harness making; the product of the most progressive cotton harness manufacturer in the world.

Let us send you a set of this new CHAFELESS CORD Harness to try . . . at our risk. Put it in a loom and see the results in improved quality and lower weaving costs. The coupon below brings you a set to try.

ACCEPT THIS OFFER

Put this harness on your loom and run it continuously for thirty days. Check up on the 6 advantages above. If you do not find this the most satisfactory harness you have ever used, return it and we will cancel the charge.

We are willing to make this offer because we believe you will come to prefer CHAFELESS CORD over any other type of cotton harness made. Over 150 mills are now using this improved harness.

Try a set at our risk, without any obligation if it doesn't do all that we say it will. Just sign and mail the coupon below for your trial set of CHAFELESS CORD HARNESS.

EMMONS LOOM HARNESS CO.
Lawrence, Mass.

EMMONS LOOM HARNESS COMPANY
Lawrence, Massachusetts.

Gentlemen: Kindly send me a set of CHAFELESS CORD Harness to try. If I am not satisfied I will return the set within 30 days and you will cancel the charge. Otherwise, you may invoice us on your regular terms. *Specifications are herewith attached.*

Name ..... Title .....

Mill .....

Address .....

BROADBENT
SUPER-SPEED EXTRACTORS
3 Exclusive Features

Steel, Copper Vulcanite and Monel Baskets

1. Super Speed *therefore* Greater Dryness
2. Rapid Acceleration *therefore* Increased Output
3. Direct Coupled Motor *therefore* No Maintenance

Roller Bearing Throughout

Write for Catalog

Six Sizes
36", 42", 48", 54", 60", 72".

T. V. COTTER, Inc.
210 South St.
Boston, Mass.

An Exceptionally Efficient Machine

Improved "Master" Foot Power Sewing Machine

THIS Portable Foot Power Sewing Machine has earned itself a reputation for economy in hundreds of mills. Gear driven, it is easy to operate and capable of attaining a high rate of speed. It is used in various parts of the mill, principally in the dyehouse, bleachery and print room, for sewing Woolen, Cotton, Burlap and other fabrics of all weights, wet or dry. Sewing Head operates without arm or connection. *Write for details.*

TILLINGHAST SUPPLY & MACHINE CO.
76 Lafayette St.
SALEM, MASS.

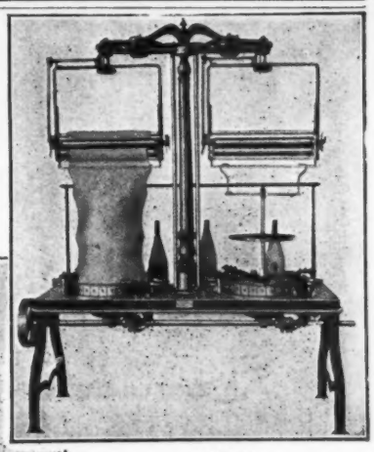
Talk over these facts with *Yourself!*

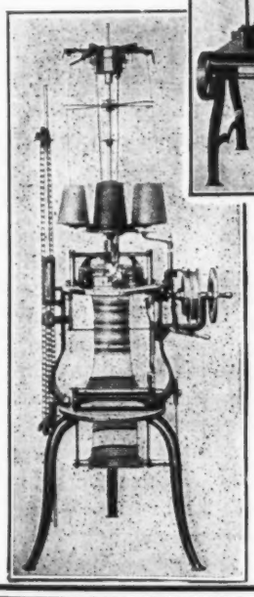
A recent government survey showed that *"98% of flat knitting machines and 79% of circular machines are 20% less effective."* Hold a conference with yourself—compare these figures with conditions in *your* mill—and then scan your income sheet. You may find a striking analogy between profit and loss and the existence of obsolete knitting machines in your mill. And you'll find an important reason for talking to a Crane representative right away—for getting information on *modern,* fully efficient Crane Knitting Machines. Crane Machines are up-to-date. They smooth out production—cut the cost—improve the quality of goods, and give your goods a price advantage on the market. A Crane representative will gladly tell you more—write.

Some Exclusive Crane Features

Patent removable hardened Wing Burr Wheels. Patent Thread Stop Motion can be fitted to 20 in. and 32 in. frames and are specially adapted for making fine Jersey Cloth and Stockinet. Our flat machine is adapted for knitting collarettes.

CRANE MFG. CO.
Lakeport, N. H.





Above

Spring Needle Underwear Machine with Automatic Take-up

This machine is made in sizes from 10 in. to 36 in. in diameter for the production of a great variety of fabrics of any desired gauge, the number of feeds depending on the size of the cylinders. Aside from the feeds for plain fabrics, the stockinet, eiderdown and astrachan feeds are superior to any on the market.

At Left

Improved Automatic 3-Colored Plain Striper

Made in sizes from 7⅝ in. to 20⅝ in. inclusive, of any desired gauge; these measurements being back to back of cylinder needles. The fabrics from this machine are used for bathing suits, theatricals, and athletic goods. These machines are second to none on the market. The Crawford stop-motion is applied when requested.

CRANE

Spring and Latch
Needle Knitting Machinery

HOW MANY TIMES?

HOW many times has a friend of yours opened a conversation by saying "Did you see what TEXTILE WORLD said recently about—"

And when you got back to the mill and tried to find the copy containing that item or article it was missing?

And because you couldn't find the issue you lost out on some real worthwhile information—

Why don't you make sure of always having your own private copy of TEXTILE WORLD? Why not subscribe and have the copies come to your home where you not only may read them at your leisure but also keep them as a ready reference library on all textile matters?

MAIL THIS TODAY

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Gentlemen:

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Name .....
Street .....
City .....
State .....
Key-HMT

For our office records please fill out the following:

With what company?.....
.....
Position .....

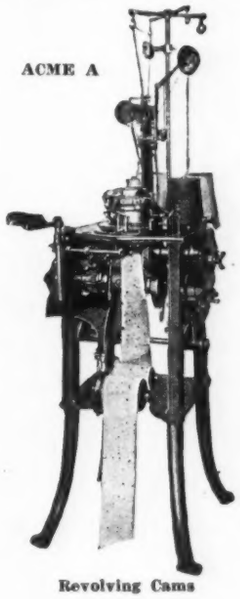
NEEDLES and MACHINES

of RECOGNIZED QUALITY and WORTH are the

ACME PRODUCTS

made for SERVICE in the KNITTING ROOM

ACME A



Revolving Cams

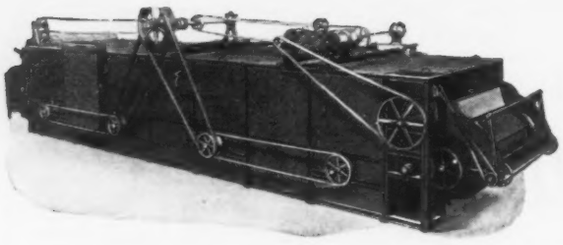
ACME D

Revolving Needles

Ask those who use them.

—See also—
CONSOLIDATED TEXTILE CATALOG

Acme Knitting Machine and Needle Co., Franklin, N. H.



Modern Drying

An obsolete drying machine decreases your net profits

SARGENT'S *increases* net profits by cutting down production costs. The Single Conveyor Stock Dryer shown saves 2 H.P. on every machine. Figure that power saving over a whole year. And it's faster, more thorough. It leaves the fibers in exactly the right condition so that they run smoother on succeeding operations and cut costs all along the line. The special Swing Shelf Conveyor is unique in design, longer in life than any other conveyor you ever had in your mill! These are just a few of the *modern* features that work for lower mill costs. Write for *all* the details.

C. G. SARGENT'S SONS CORPORATION
GRANITEVILLE, MASS.
Builders of Cotton and Wool Preparatory Machinery

Heavy gauge Monel Metal dye tanks built by Farber

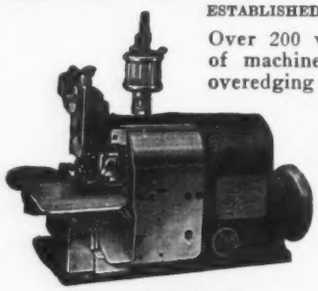
FARBER
Specialists in MONEL METAL for the Textile Industry

Let us quote

Phone
Perry 2988
Perry 2989

FARBER SHEET METAL & ROOFING CO.
258-264 Pine Street - - - PAWTUCKET, R. I.

M E R R O W I N G
ESTABLISHED 1838



Over 200 varieties and modifications of machines for trimming, seaming, overedging and ornamenting all sorts of fabrics.

Special machines for Flat-Butted-Seaming ends of piece goods, saving cloth and labor in subsequent processing.

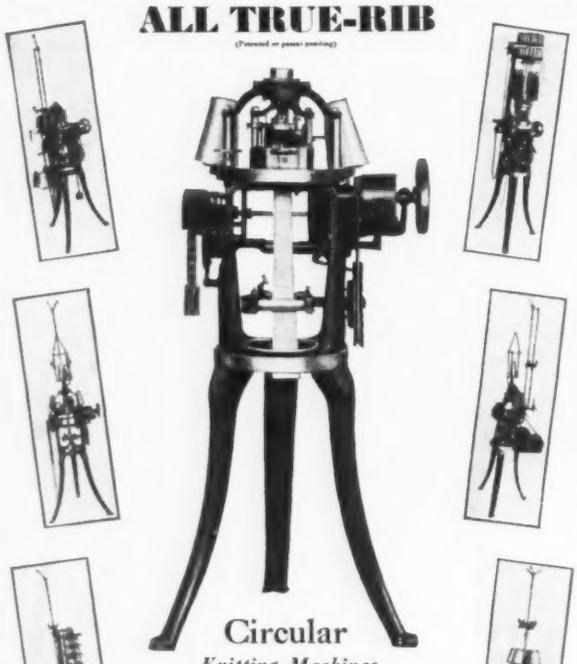
Let us show results on swatches of your own fabrics.

MERROW
TRADE MARK REG. U. S. PAT. OFF.

See also CONSOLIDATED TEXTILE CATALOG

THE MERROW MACHINE COMPANY
14 Laurel St., Hartford, Conn., U. S. A.

ALL TRUE-RIB
(Patented or patent pending)



Circular
Knitting Machines
Braiding Machines
Creasing Machines

FIDELITY MACHINE CO.
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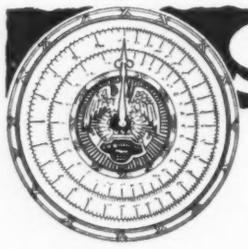
PHILADELPHIA, PA.

THE FIDELITY UNIVERSAL RIBBER



SCOTT

Help Production by Establishing Uniformity

You cannot expect a superintendent to keep production figures up and labor costs down when the "breaks" are against him.

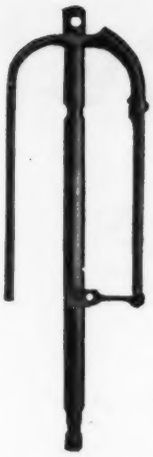
Scott Testing Machines take the guesswork out of production forecasts.

HENRY L. SCOTT COMPANY
PROVIDENCE, R. I.

TESTERS

L. T. IVES CO.
Established 1874 Manufacturers of all kinds of
Spring Knitting Needles
Transfer Points, Sinkers, Jacks, Etc.
New Brunswick, N. J.

"Opportunity" Advertising:
Think *"SEARCHLIGHT"*, First!



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FLYER AND PRESSER

Sole Agents for U. S. A.

THOMAS MAYOR & SON
Olney Street, Providence, R. I.

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AUTOMATIC SPOOLERS
HIGH SPEED WARPERS
WARP TYING MACHINES
WARP DRAWING MACHINES
HAND KNOTTERS

BARBER-COLMAN COMPANY

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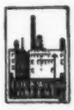
Lockwood Greene Engineers, Inc.



Mechanical - Electrical
Structural Engineers

Plans, Specifications, Supervision of Construction, Machinery Lay-outs, Location Studies, Manufacturing Reports, Appraisals, for Industrial Plants

NEW YORK BOSTON CHICAGO
CLEVELAND SPARTANBURG

Did you have to beg, borrow or purloin this issue? It's so easy to own a copy of your own every week.

Incomparable

THE NEW PARAMOUNT SILK FORM

Indispensable for Manufacturers who demand Super Quality Finishing

PARAMOUNT Engineers have combined in one form every desirable feature necessary to produce the Perfect Silk Hosiery Drying and Finishing Medium.

The Special Processed Surface, for example, produces a frictional resistance that results in an average of one inch greater length in the finished stockings.

Constructed, at certain points, thinner than an ordinary wooden board this form tapers to perfect crease-producing edges and distends thru the leg portion for faultless finishing of Silk and Picot Tops.

The New Paramount Form, built of a metal tougher and more durable than steel—flawless in surface—immune to corrosion or rust and without plating to crack, chip or wear off, provides the ultimate in protection against the costly hazard of "Pulled Threads".

Heated by the Paramount Low Temperature Water dry System the Paramount Silk Form can be operated at any selected temperature between 160 and 200 degrees which is the perfect heat range for silks, *to avoid baking.*

Forms are mounted to Swivel permitting inspection of both sides of the stockings. Alignment and straightening of Picot and Silk tops is facilitated and spraying of Ingrains can be accomplished with maximum efficiency.

PARAMOUNT
TEXTILE MACHINERY CO.
337 West Madison Street, Chicago, Ill.

Making Ends Meet

and then some—Profit

Investigate paying installations

Veeder-Root INCORPORATED
HARTFORD, CONN.

WINDING MACHINERY
For all Transfer Purposes
in
Textile Mills
Exporters to
54 Foreign Countries
See next issue
UNIVERSAL WINDING COMPANY
BOSTON

Everything for Textile Printers
And for Bleachers, Dyers and Finishers
ENGRAVING MACHINERY AND SUPPLIES
HURLEY-JOHNSON CORP.
25 Walker Street, New York City
Branch Office: 15 Pine Street, Providence, R. I.

Davis & Furber Machine Co.
NORTH ANDOVER, MASS.
TEXTILE MACHINERY
Card Clothing Napper Clothing

Important Improvement in Worsted Spinning
Dustproof and Self-Lubricating Spinning Tube
Makes Perfect Yarn—Saves Labor
JAMES H. SMITH CO.
3-11 Culver St. Providence, R. I.
STEEL CAPS, SPINDLES, TUBES AND FLYERS
Manufactured and Repaired

FRANKLIN MACHINE COMPANY
ENGINEERS—FOUNDERS—MACHINISTS
PROVIDENCE, R. I.
Ball Winding Machines, Yarn Dressers, Baling Presses, Spun Silk Machinery, Special Machinery, Shoe Lace Tipping Machines, Corliss Steam Engines.
TEXTILE PRINTING MACHINERY
Machinery for Dyeing Rayon in the Skein
Package Dyeing Machinery
—See also—
CONSOLIDATED TEXTILE
—CATALOG—

FLETCHER
THROWING MACHINERY for SILK and RAYON
NARROW FABRIC LOOMS
EXTRACTORS
FLETCHER WORKS, PHILADELPHIA

HAVE YOUR CAKE
AND EAT IT TOO

READ your copy of TEXTILE WORLD each week as soon as it comes to you and keep posted up-to-the-minute on all that is happening.

Save your copies and at the end of each six months an index will be sent to you thus enabling you to refer instantly to the copy containing whatever article or item you are particularly interested in.

A New File of Catalogs

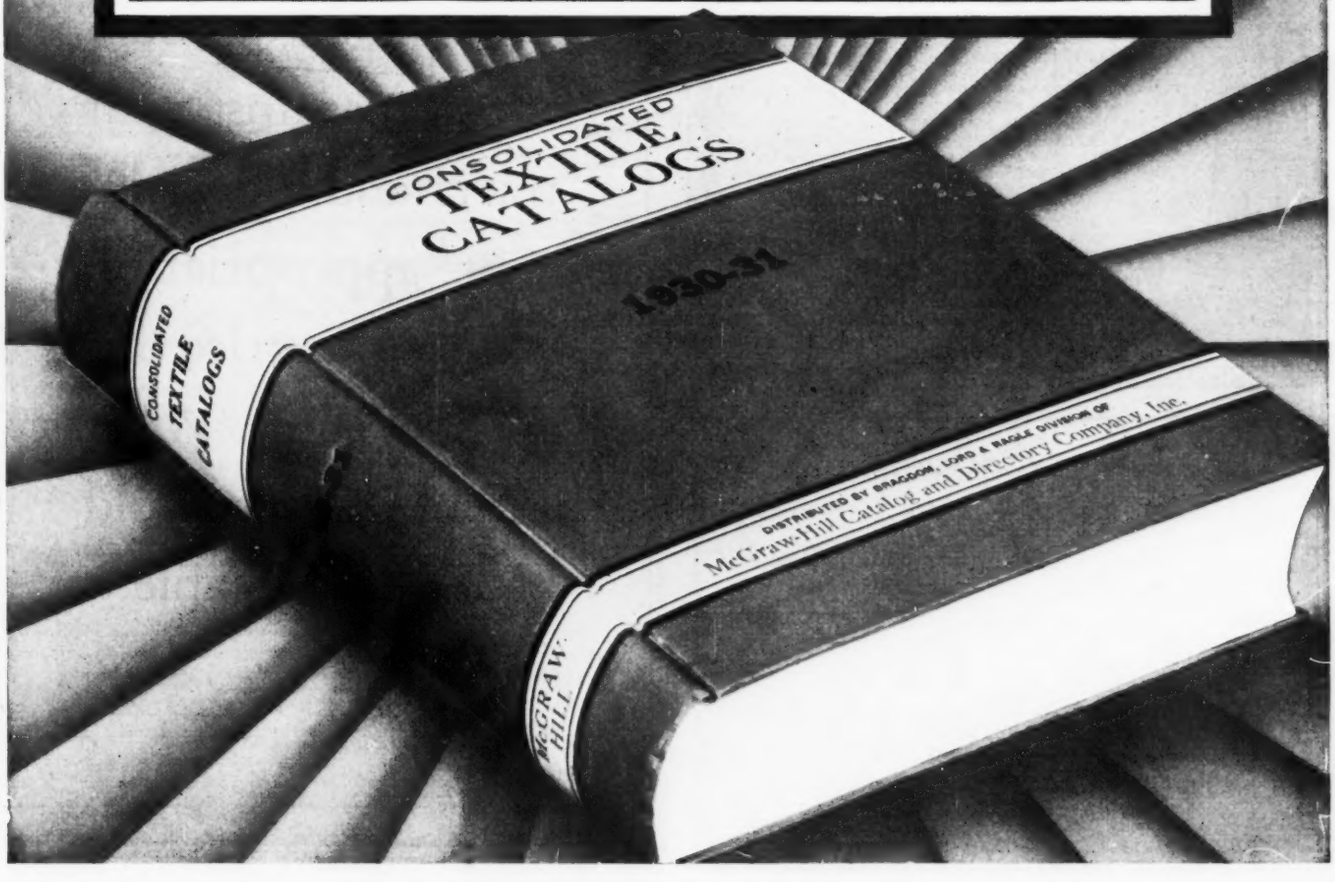
—now in course of preparation!

A new file of catalogs of textile machinery, equipment, and supplies is now in course of preparation. Manufacturers are busy building their new catalogs to include in the 1932-1933 file of TEXTILE CATALOGS. And our staff of expert catalog-builders are helping them assemble the information on their products in the way you like to have it.

The enthusiastic reception of the file you are now using—the extensive use it is being put to by buying and specifying officials—has made it possible to forecast that this new edition will be the best file of catalogs ever distributed to the textile industry.

You can help make this collection of catalogs the best one yet from your standpoint, by telling us what manufacturer's catalogs you would like to have included, or what products you would like to have more fully described.

McGRAW-HILL CATALOG SERVICE
NEW YORK, N. Y.



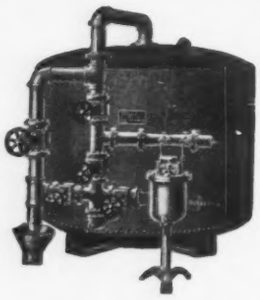
Roberts Filters

Roberts Filters

Provide Pure Clean Water for All Industrial Purposes

We manufacture pressure and gravity filters especially adapted to meet the exacting needs of the textile industry—

ROBERTS FILTER MFG. CO.
603 Columbia Ave. Darby, Penna.



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PURE WATER

Creo-pine

Trade Mark Reg.

Sub Flooring

Lay Once
never replace

Sales Offices in Principal Cities

New York, Philadelphia, Pittsburgh, Toledo, Chattanooga, Charlotte, Detroit

Southern Wood Preserving Co.
Atlanta, Ga.

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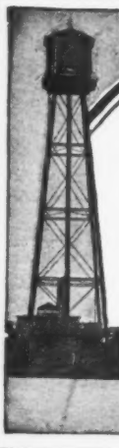

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Invest in a Caldwell Structural Tower and you have the permanence of a skyscraper. It will serve you without depreciation and the need of costly repairs for a lifetime.

The same latticed steel construction used in skyscrapers and bridges—the highest type of steel construction known—is used in this tower. It is designed by engineers and constructed according to engineering principles. It is the tower for those who realize the economy of a *permanent* investment.

Send for Catalog

W. E. Caldwell Co., Incorporated
2060 Brook St.
Louisville, Kentucky

Caldwell TANKS AND TOWERS

For Your Convenience

TEXTILE WORLD, 330 W. 42d St., New York

Gentlemen:—I sure would like to have a complete file of TEXTILE WORLD to keep at my home. Enclosed please find $4.00 in full payment for the next 52 issues which please send to my home address as follows:

Name .....

Street .....

City ..... State.....

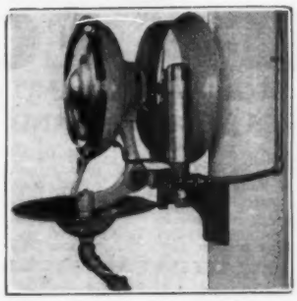
I am..... with ..... Company

Key FYC

IT would take weeks of your time travelling throughout the textile industry to make the contacts and get the experience and information that you get at your desk every time an issue of *Textile World* arrives. And if you charge your subscription against your "travel and entertainment" appropriation it's only the price of a lunch for three. What kind of reading could be more profitable?

The new type "H"
BAHNSON HUMIDIFIER

No wetting with this control.



The new Bahnson Humidifier maintains the same relative humidity in all parts of the room. Actuating element is a very strong, thin, durable hygroscopic material which makes immediate response to atmospheric changes. Action is entirely automatic and a special key is needed to change the humidity adjustment, thus eliminating all chance of wetting.

Write for special descriptive bulletin or let us send a representative.

THE BAHNSON COMPANY, 93 Worth St., New York

WOOD TANKS

FOR DYEING, BLEACHING, FINISHING
Lined with Monel Metal, Copper or Lead If Desired
AMOS H. HALL & SONS
Erie Ave. & F Street
PHILADELPHIA, PA.
See also CONSOLIDATED TEXTILE CATALOG

R.D.COLE MFG.CO.
NEWNAN, GA.
New York Office, 5 Beekman St.
TANKS - TOWERS - STANDPIPES - KIERS
BOILERS - CASTINGS - Monel Metal Work

PRACTICAL
MILL CONSULTANTS
The Textile Development Co.
Sidney S. Paine, *President*
80 Federal St., Boston, Mass.
Southern Office: 1001 Jefferson Standard Bldg., Greensboro, N. C.

IF you do not find what you want in the *Searchlight Section* of TEXTILE WORLD . . .
then advertise for it.

Heat CONTROL
Temperature Regulation for every process in the textile industry. Write for Bulletins.
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Offices in 41 other cities 4277
THE POWERS REGULATOR CO.

LUNKENHEIMER

Bronze
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Bronze
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Buy from the local
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THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI, OHIO, U. S. A.
NEW YORK CHICAGO BOSTON PHILADELPHIA
PITTSBURGH SAN FRANCISCO LONDON
EXPORT DEPT. 318-322 HUDSON ST., NEW YORK

11012-35-54

SEARCHLIGHT SECTION

MACHINERY, MILL SUPPLIES, YARNS, ETC., WANTED AND FOR SALE
BUSINESS OPPORTUNITIES, MILL PROPERTIES, POSITIONS AND MEN WANTED

UNDISPLAYED—RATE PER WORD:
Positions Wanted, 5 cents a word, minimum $1.00 an insertion, payable in advance.
Positions Vacant and all other classifications, excepting Equipment, 10 cents a word, minimum charge $2.00.
Proposals, 40 cents a line an insertion.

INFORMATION:
Box Numbers in care of our New York, Chicago or San Francisco offices count 10 words additional in undisplayed ads.
Discount of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

DISPLAYED—RATE PER INCH:
1 to 3 inches.....$5.00 an inch
4 to 7 inches..... 4.75 an inch
8 to 14 inches..... 4.50 an inch
Other spaces and contract rates on request.
An inch is measured vertically on one column, 3 columns—30 inches—to a page.

COPY FOR NEW ADVERTISEMENTS ACCEPTED UNTIL NOON TUESDAY FOR SATURDAY'S ISSUE. T.W.

POSITIONS WANTED

LOOM FIXER—Woolens, 15 years; plushes, 8 years; silk and rayons, one year. Will locate anywhere, if possible. PW-530, Textile World, 330 West 42d St., New York.

EXPERIENCED dyer on all varieties of flat, pile, and raw stock, desires position. Best references. PW-575, Textile World, 330 West 42d St., New York.

JUNIOR executive, stylist assistant weave designer. Textile school graduate, dress fabrics, chain store merchandising experience. Thorough knowledge market and sales analysis, and sales promotion, including actual preparation publicity material. PW-576, Textile World, 330 West 42d St., New York.

SALESMEN WANTED

Salesman Wanted Calling on Textile Trade in New England States to take on a line of woven mechanical felts on commission basis. SW-560, Textile World, 330 West 42d St., New York.

SALESMEN AVAILABLE

SALESMAN desires connection with mill specializing in curtain fabrics for New England manufacturers. Greige or finished goods. Best references. SA-572, Textile World, 330 West 42d St., New York.

BUSINESS OPPORTUNITY

For Sale at Price Less than Assessment or for rent to responsible parties—2 story and basement brick and heavy construction. Building contains about 23,000 square feet floor space and approximately 5,000 square feet yard space. Located in Phila., Textile section. For further particulars address William A. Hayes, Esq., 510 Commonwealth Bldg., 12th and Chestnut Streets, Philadelphia, Pa.

IF YOU do not find what you want in the Searchlight Section of TEXTILE WORLD . . . . . then advertise for it!

WANTED
Supt. of Bleaching, Dyeing and Finishing
Permanent position to right man possessing character, thorough knowledge of the business and a willingness to co-operate with the management. Must have ambition, initiative and genius. Derelicts or those looking for a soft position to taper off need not apply.
P-557, Textile World
330 West 42d Street, New York City

Opportunity to Establish in Canada
Floor space in modern factory building—low rental—dye house in connection—live Ontario town. Write
BO-551, Textile World
330 West 42d St., New York City

CHARLES P. RAYMOND SERVICE, INC. —35th YEAR
CONFIDENTIAL EMPLOYMENT SERVICE
Send us your personnel requirements.
294 WASHINGTON ST., BOSTON, MASS.
Phone Liberty 6547

PROFESSIONAL SERVICES

W. S. BARSTOW & COMPANY
Incorporated
Engineering—Design—Construction
Industrial Plants—Public Utilities
Consultation Invited on Building Projects
120 Wall Street, New York City — 412 Washington Street, Reading, Penna.

WANTED

WANTED
One Used Shriver Filter Press 36 in. x 36 in.
W-566, Textile World
330 West 42d Street, New York City

Notice to Advertisers!

Because of the Holiday, New Year's Day, Jan. 1st, the *"Searchlight"* pages of the Jan. 2nd issue of

TEXTILE WORLD

will close one day in advance of the regular schedule.

Advertisers will please co-operate with us by sending new advertisements or changes of copy early.

FINAL CLOSING TIME
Noon, Monday, Dec. 28th.

There is a

Searchlight Section

in each McGraw-Hill paper:

American Machinist
Aviation
Bus Transportation
Chemical and Metallurgical Engineering
Coal Age
Construction Methods
Electric Railway Journal
Electrical Merchandising
Electrical World
Electronics
Engineering News-Record
Engineering and Mining Journal
Engineering and Mining World
Factory and Industrial Management
Food Industries
Maintenance Engineering
Metal and Mineral Markets
Power
Product Engineering
Radio Retailing
Textile World

For advertising rates and other information on any or all of these publications, address

SEARCHLIGHT DEPT.
330 West 42d Street, New York

FOR SALE
By Tender as a Going Concern—Tenders to be Opened
January 5, 1932

HAMILTON, CANADA
UNDERWEAR MILL

(For Men's and Boys' Wear Exclusively)

Complete equipment for winding — knitting —dyeing and finishing

COTTON—WOOL
Silk and Wool—Cotton and Wool

24 Crane Spring Needle Machines
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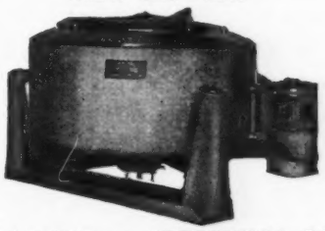

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